

Bellwether

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The Plan — A Blueprint for the Future

Over the last several years I have written about a number of topics and often referred to our strategic planning process as one of the most critical tasks to be accomplished.

The Pew Charitable Trusts, in Philadelphia, have given focused attention to national and societal dimensions of health care. As such, they initially concentrated their efforts on dental medicine. Three years ago the Pew initiative was broadened to include veterinary medicine, primarily from the vantage point of re-shaping veterinary education and how these changes might mold the future of the profession itself.

In the United States, there is a tendency to define an issue, have someone provide funding to address that issue, and make the simple decision: "we will do a strategic plan." But one might well ask, without that national focus or a means of funding, why would one want to do such a plan?

I was recently invited to discuss this very issue at a national conference held in Palm Beach, Florida, on "The 21st Century University", and the message I relayed is that very good reasons exist for doing a strategic plan.

Strategic planning is the ability of an organization to understand the effect of outside influences on the institution as it charts future directions. It forces an organization to look at itself, its facilities, staff and resources: it is an opportunity to examine the operations — are they efficient or wasteful in today's environment of dwindling resources and increasing external pressures? Strategic



planning offers an institution the opportunity to map a strategy to attain leadership or to maintain a pre-eminent position. Simply put, strategic planning provides a vision of what can be.

The heyday of public subsidy for higher education is over. Competition among schools, colleges and universities for funding, students, top-notch faculty or public attention is increasingly intense. Future growth will be difficult or impossible without an internal redirection of strengths, resources and priorities. How can one begin to change without the benefit of a plan to guide those critical decisions?

A strategic plan is not a panacea; it will not provide all of the solutions — indeed, it may not even identify all of the problems, but it does ultimately provide a blueprint — “the plan”. The plan is nothing more than one step in a continuous process, a guide to allow tacticians to do their job. It equally signals a constant need to reevaluate goals in light of the original assumptions or changes in the environment that influences the institution.

How one goes about strategic planning is perhaps not as important as what one does with the results. For the former is merely logistical, while the latter is the key to success or failure.

The logistics involve a series of procedures, here simplified, but in reality painfully time consuming. The logistics require introspection — an analysis of self worth, at best a difficult task for academic institutions. They also require an analysis of constituents and their needs and aspirations. Is the institution fulfilling its mission? By whose measure — the institution's or the recipient constituents?

One also has to evaluate innate strengths and weaknesses of the organization. What are the resources available in faculty, staff, discretionary dollars, facilities, programs, unique assets, expertise, geographic locale, and so forth?

Once the analysis is complete and contained in a written document, “the plan”, what does an institution do with it?

The plan must be used to develop the agenda for the changes needed to achieve goals; in our case, definite leadership in veterinary medicine, research and education. It also must be used to ensure that the process will continue dynamically, creating a dialogue with our constituencies and a means of challenging our direction through annual reviews of our original assumptions and the changing environment that influences all that we represent.

Our strategic plan is referred to as a strategic goals document. It is a marvelous document which succinctly articulates six goals and it forces us to focus on a vision of leadership. The strategic goals are:

- Promote growth and excellence in education.
- Promote growth and excellence in research.
- Maintain and promote excellence in service.
- Improve the quality of student life.
- Establish and promote selected specialty areas.
- Strengthen and improve the performance of administrators, faculty and staff.

What that means for the School of Veterinary Medicine at the University of Pennsylvania is that we can no longer be satisfied with “being” at the cutting

edge — now we must be honing that edge. It means we can no longer be “state-of-the-art” — we now must have “state of vision.”

As we are considered leaders in the present, we must extend ourselves logarithmically to outpace those other clearly capable institutions in their similar aspirations for leadership.

The health science center of the future is what we will be — a school of vision with multidisciplinary programs of veterinary education coupled with research programs on equal par with medical frontiers. Our clinical programs will extend from the expected tertiary care to a level of quaternary care now emerging in human medicine, and as yet unknown in the veterinary profession.

However, we will not emulate our sister profession as we have so judiciously in the last decades. Rather we, as a School of Veterinary Medicine, and, more importantly, the unqualified leader of our profession, will leap beyond to the position of leading the direction of biomedical science itself. What better profession than veterinary medicine to aspire to such a level with its objective and comparative approach to life, science and the necessary interplay of humanity and the environment?

I challenge you, as I have myself and my institution, to become partners in this exciting venture, for with your help and enthusiastic support, the vision can be fueled.

Only the daring and truly committed need step forward.

Edwin J. Andrews, V.M.D., Ph.D.

New Bolton Center at Saratoga



New Bolton Center went to the races at Saratoga Racecourse on August 10. The festive day included a 20 vehicle Carriage Parade and seven races named in honor of famous horses from the past as well as a luncheon in a railside marquee. The New Bolton Center Day at the Races Committee was chaired by Mrs. J. Maxwell Moran.

The day began when guests ascended the carriages and were driven to the Saratoga Racecourse from the Avenue of the Pines. Mr. Frolic Weymouth led the parade in a 3/4 Park Drag to a four-in-hand of Standardbreds. At the Racecourse, luncheon was served while guests watched and wagered on the races.

Spanning four decades, the 50's, 60's, 70's and 80's, the names of the races reflected the successes of a game gelding (Creme Fraiche), a European grass champion (Sagace), a well known steeplechaser (Lucky Boy) and a stakes producing mare (Royal Dilemma). They also echoed the accomplishments of those who helped make outstanding horses — the owners, the late Mr. and Mrs. Cortwright Wetherill (Kingmaker), and the trainers, such as Mr. William A. Croll (Parka). Above all they provided a fascinating glimpse into the history of New York Racing including the origin of a trophy for the Hopeful and



To the races

Hannibal's exciting part in it. Several of these outstanding horses are no longer living and therefore the day offered the opportunity to pause, pay tribute to their memory and the many exciting moments they gave to racing.

This celebration of racing's achievements benefitted the industry as well. Proceeds of the New Bolton Center Day at the Races are helping fund such equine research efforts as Dr. David Nunamaker's studies on bucked shins and also providing state-of-the-art equipment for the new Connelly Intensive Care Unit/Graham French Neonatal Section. A central part of this facility, the nursing station, has been named to honor the winner of the 1985 Belmont Stakes and two time winner of the Jockey Club Gold Cup, Creme Fraiche. The event raised more than \$45,000.



Larry Hagman of Dallas fame joined Dean Edwin J. Andrews and his wife Paula for New Bolton Center Day at the Races

Veterinary Dentistry at Penn

Veterinary dentistry, one of the most recent veterinary specialties, is generating a great deal of interest among practitioners, according to the AVMA. On September 1 the first full-time resident in veterinary dentistry anywhere began her duties at the University of Pennsylvania School of Veterinary Medicine. Dr. Jamie Anderson, a recent graduate of the University of California Veterinary School at Davis, and a former Registered Dental Hygienist, will spend two years here in a program designed to meet the entry requirements of the American Veterinary Dental College. Jamie comes from a "dental family" - her father is a dentist, and her mother and sister are dental hygienists.

Penn's Veterinary School is a natural choice as the site of the first veterinary dentistry residency. Dr. Colin Harvey, professor of surgery here, has been a moving force in the field. He was instrumental in the development of the American Veterinary Dental Society, started 13 years ago, and is one of the eight charter members of the American Veterinary Dental College, recently recognized by the AVMA.

The new residency program is supported by an anonymous grant and by grants from Nabisco Brands, Inc. and Henry Schein, Inc. Dr. Anderson works with Dr. Harvey, a board certified veterinary dentist and surgeon. She sees patients during the Monday oral, dental, nasal diseases clinics and participates in the diagnosis and treatment of the animals. During her residency she will rotate through the specialties of anesthesia, radiology, soft tissue and orthopedic surgery. In addition, she will spend time in the oncology and small animal medicine clinics as well as at the Philadelphia Zoo. Dr. Anderson participates in rounds at VHUP and will take part in clinical discussions at the Dental School, and will conduct a dental research project.

Dogs and cats with oral diseases are seen at VHUP by appointment, generally by Dr. Harvey or by a member of the medicine staff if the oral problem is part of a wider clinical problem. Orthopedic problems affecting the jaws are sometimes seen by the orthopedic staff, and problems due to cranial nerve diseases often start out in the neurology clinic. In addition to Drs. Harvey and Anderson, the current dental staff at VHUP includes Ms. Marcia Venner, a full-time dental hygienist/technician. The clinicians perform periodontic, endodontic, restorative and orthodontic procedures, and many oral surgical procedures - radical maxillectomies and hemimandibulectomies are common as treatment of oral neoplasms, some of which are followed-up with radiation and/or chemotherapy.

Many of the techniques used in veterinary dentistry are the same as in people. Teeth are cleaned, extracted, and, less frequently, capped. Malocclusion may be corrected, if necessary for the animal's comfort, and palate defects are repaired. However, while the human patient is conscious during dental treatment, the animal patient is not. Full anesthesia is generally required, which adds a health risk and is a cost consideration when treating an animal. A veterinary dentist can not ask the patient to return week after week for further treatment. So, when working on a dog or cat, as much as possible has to be repaired or corrected during one visit, with one anesthesia.

The foremost dental problem in dogs and cats is periodontal disease, where gums become inflamed due to plaque and calculus build-up. This sets the stage for bacterial infections. The inflamed gum tissue pulls away from the bone, pockets form and soon infection may spread deeply, affecting the root. In some cats, gum disease causes the formation of



Lower canine tooth that has been crowned with stainless steel crown.



Severe gingival hyperplasia surrounding upper canine tooth of a dog.

ulcers, making it an extremely painful condition where the animal is reluctant to eat or groom itself. This can be life-threatening if left untreated.

Most of the patients in the dental clinic are middle-aged or old animals. Often a teeth cleaning and deep scaling alone won't correct the problem and severely affected teeth have to be removed. Owners are then instructed how to brush their pet's teeth to prevent a recurrence of gum disease. Dogs are not prone to cavities, so drilling and filling are done rarely. Dental problems also affect large animals like horses and sheep, though not much research has been done in this area. Zoo animals too are important patients of veterinary dentists, again it is a field which is in its infancy.

Much of the dental research at Penn's Veterinary School centers on periodontal disease. Dr. Harvey and collaborating veterinarians, dentists and other scientists have conducted pioneering research in such areas as effectiveness of plaque retardants in dogs; the pathological, bacteriological, and immunological features of gingivitis-stomatitis in dogs and cats; the



Upper canine tooth of a dog following root canal treatment.



Lower jaw of a cat with severe gingival inflammation affecting the first premolar tooth.

epidemiology of periodontal disease in dogs, and other areas. Because some animal and human oral diseases share pathological similarities, this research may directly benefit human health. In addition the dental team is examining the efficacy of dentifrices (toothpaste) for animals and oral devices which aid in the natural cleaning of teeth, such as chew toys for dogs, made from a floss-like material.

Veterinary students at Penn rotate through the dentistry clinic. They also can take a 16-hour lecture series as an elective. About 50 percent of each class participates. Veterinary dentistry is a popular topic in the Continuing Education courses offered by the School, reflecting the rising interest of practitioners.

Dr. Harvey is looking to expand the dental program and to increase the collaboration with Penn's Dental School to enable the School to offer a full program in veterinary dental medicine. The addition of a dental residency is just a first step as Penn seeks to continue in its leadership role of veterinary dentistry.

Vascular Graft Helps Horse

GORE-TEX®, familiar to most as a fabric for outerwear, is also a material for vascular grafts which have been used to replace diseased blood vessels in humans. Now a GORE-TEX® vascular graft has been implanted in a horse.

Heisman, a show horse, was brought to New Bolton Center last summer. His right jugular vein was completely occluded and his left jugular vein was partially occluded. He was seriously ill and was unable to exercise strenuously because of swelling of his head and head shaking. Dr. William Donawick, the Mark Whittier Allam and Lila Griswold Allam Professor of Surgery, attempted to unblock the left jugular vein by "drilling" through the blockage. The procedure was only partially successful and did not permit sufficient venous return from the head to alleviate the swelling.

Dr. Donawick then contacted the manufacturer of Ringed GORE-TEX® Vascular Grafts to determine whether this technique might be used in a horse. He also consulted with Dr. Anthony Comerota, a vascular surgeon at Temple University Hospital who

had implanted a number of such grafts in humans to replace lost jugular veins. Dr. Comerota agreed to assist Dr. Donawick in trying to replace Heisman's clogged right jugular vein with a 2.0 cm GORE-TEX® graft. The manufacturer, W.L. Gore and Associates, Inc., Medical Products Division, donated a GORE-TEX® Expanded PTFE Vascular Graft.

During a four hour long operation on July 11 the two surgeons removed the 25 cm long occluded section of the right jugular vein and implanted the Ringed GORE-TEX® graft. To ensure a continuous blood flow throughout the graft, a shunt was created between the right carotid artery and the undamaged portion of the jugular vein. Heisman woke up from the anesthesia in good order and walked back to his stall just one hour after the incision had been closed. Shortly thereafter he ate his hay.

He is home now in Maryland, hale and hearty, with a good blood flow through his replacement vein. The swelling of his head and his head shaking have passed and he is in training to resume his career in the show ring.

Prenatal Program for "High-Risk" Mares

The last eight years have witnessed the birth and rapid growth of equine neonatology, a new subspecialty in veterinary medicine focusing on the study of newborn foals.

In the spring of 1984, a neonatal intensive care unit (NICU) for foals was established at New Bolton Center. Equipped with piped-in oxygen, a temperature-controlled environment, padded floors, ventilators, infusion pumps, and a variety of monitoring devices, the NICU provided 24-hour-a-day nursing care for critically ill foals.

Initially, a dramatic improvement in foal survival rates accompanied development of the intensive care facility. But as the number of foals admitted to the unit increased, so did the severity of their illnesses. Neonatal survival rates began to plateau. Successful treatment of the more severely compromised foals was becoming increasingly more dependent on how quickly the problem was recognized and how rapidly and efficiently these foals were stabilized and transported to the NICU. It became apparent that hospitalization of the mare at risk of having an abnormal pregnancy or difficult delivery would allow earlier detection, treatment or possible prevention of disease in the newborn foal.

During 1988 and 1989 foaling seasons, clinicians from the sections of medicine, reproduction, surgery and anesthesia began to collaborate on a perinatal program designed to identify and manage mares with "high risk" pregnancies. Events having a profound effect on the newborn's health and survival include lack of oxygen before or during birth, infection caused by bacteria or viruses, and inadequate delivery of nutrition to the unborn fetus resulting in abnormal development.

Lack of oxygen can produce serious organ damage, as well as death, and is the primary cause of the "dummy foal" syndrome. Viral or bacterial infection can result in abortion, premature delivery of a sick foal, or death of a full-term foal within the first week of life. Inadequate in utero nutrition can occur when the dam is seriously ill or whenever the placenta is damaged or compromised. Possible outcomes include abortion, premature delivery, excessively long gestation length, or the birth of a small, growth-retarded foal.

Examples of "high-risk" pregnancies include broodmares experiencing severe systemic disease, endotoxemia, abdominal surgery and general anesthesia, abnormal vaginal discharge, high fevers, severe anemia, malnutrition, excessive drug administration, pelvic injuries resulting in fractures or neurologic deficits in the hindend, or long-distance transportation during their pregnancies. Premature detachment of the placenta during birth (i.e. "red bag") produces varying degrees of birth asphyxia (oxygen starvation) in the foal. Abnormal deliveries jeopardize foal survival and include premature labor, induction of labor, Cesarean section, and dystocia.

Dystocia is an abnormal delivery that can not proceed naturally due to the foal's large body size or the abnormal positioning of the foal within the birth canal (e.g. breech delivery, head or limbs twisted). Severe dystocias usually result in asphyxiation and death of the foal unless the fetus can be properly positioned or an emergency C-section performed. Birth trauma, twinning, congenital anomalies (i.e. birth defects), prematurity, and failure of the newborn to ingest enough food quality colostrum are other events that threaten the foal's survival.

Mares at risk for problem pregnancies are hospitalized and given a complete physical examination including rectal palpation. A vaginal exam is performed only if indicated. Routine analysis includes a complete blood count and measurement of creatinine and fibrinogen. The mare's vital signs



Dr. Ben Martin and Greg Staller deliver a foal via Cesarean section. The foal is suspended to allow excess fluid to drain from its lungs. The foal will be stabilized in an adjacent intensive care stall.



Dr. Jon Palmer examines a newborn foal following Cesarean section. The foal is resting on an air mattress atop a specially designed stainless steel hydraulic foal bed. A heat lamp provides additional warmth. An intravenous catheter has been inserted and connected to a bag of fluids suspended over the foal.

(temperature, pulse and respiration) are recorded daily. The concentrations of calcium and magnesium in her mammary gland secretions are monitored to help assess her readiness to foal. Daily paddock exercise is provided.

Mares wear a Breeder-Alert halter monitor that transmits a signal to remote pocket pagers whenever the mare lays down. Foaling stalls are equipped with closed-circuit television monitors. In addition to electronic surveillance mares are observed day and night by nurses and clinicians.

Fetal movement, clarity of fetal fluids, and fetal heart rate are evaluated every few days using trans-abdominal ultrasonography. Prolonged absence of fetal movement, abnormally cloudy fluids, or a slow, irregular fetal heart rate are signs of fetal distress. If these signs persist, induced delivery or Cesarean section can be considered to try and prevent death of the fetus.

Ultrasound-guided amniocentesis, a commonly used diagnostic aid in human obstetrics, is also being developed for use in pregnant mares. Uterine contraction monitoring devices, used to detect premature labor in women, are being investigated for use in mares at risk for delivering early.

All foalings are attended by veterinarians from the sections of medicine and reproduction. In cases of severe dystocia, the mare can be quickly anesthetized and a C-section performed. Foals asphyxiated during birth are resuscitated and given supplemental oxygen. Each foal receives a complete physical exam and has routine blood work submitted. If the foal shows signs of infection, blood cultures are submitted and antibiotic therapy initiated.

The quality of the mare's colostrum is evaluated by measuring the concentration of antibodies it contains. Within 18 hours of birth the antibody concentration in the foal's blood is measured to be



A Thoroughbred mare with her 24-hour old foal. This mare had a poor reproductive history that included losing several foals suffering from the "dummy foal" syndrome. She was admitted to New Bolton Center to foal out in 1988 and again in 1989. Both foals are alive and healthy.

certain enough colostral antibodies have been absorbed to provide protection against bacterial and viral infections. Critically ill foals are admitted to the NICU for continued treatment.

During the 1989 foaling season, 18 mares delivered while hospitalized. The deliveries included six Cesarean sections, three dystocias, and one induced delivery. Problems afflicting some of the mares included pelvic trauma, long bone fracture, uterine infection and neurologic disease. Two mares had histories of delivering sick and/or "dummy foals" during past pregnancies. As we continue to focus attention on the events surrounding the birth of abnormal foals and study the reproduction history of mares losing foals late in pregnancy, we hope to improve our ability to detect pregnancies in trouble.

Our goal is to continue to reduce perinatal foal mortality through early detection and intervention of problems before, during, as well as after birth.

Wendy E. Vaala, V.M.D.

Poultry Research Awards

The Pennsylvania Department of Agriculture has funded a number of research projects pertaining to poultry. Drs. Charles E. Benson and Robert J. Eckroade received a \$65,350 one-year grant for their project "Evaluation of Treatment Regimes in the Resolution of *Salmonella enteritidis* Infections in Poultry." "DNA probe to Distinguish Pathotypes and Strains of Laryngotracheitis Virus" was funded for two years through a \$81,367 grant. The investigators are Drs. Linda Keller, Benson and Sherrill Davison.

Dis. Eckroade, Keller and Mariano Salem received a one-year grant for \$14,740 to study the "Epidemiology of Vertical Transmission of Reticulo-endotheliosis in Previously Exposed and Susceptible Turkey Hens." A two-year \$83,480 grant was awarded to Drs. Eckroade and Davison for the project "Control of *Mycoplasma gallisepticum* in Pennsylvania Poultry Flocks." Drs. Benson and Eckroade received a three-year \$168,241 grant for a study entitled "Characterization of *Salmonella enteritidis* Infection in Egg-Laying Hens."

Drs. Benson and Eckroade received a three-year \$300,000 grant from USDA to study "Transmission of *Salmonella enteritidis* in an Egg-Laying Flock." Dr. Keller received a one-year \$4,067 USDA grant for her study "Immune Mechanisms and Components of JMV-1 Culture Supernatant Protective against Poultry Diseases."

New Treatment Protocol for Feline Oral Squamous Cell Carcinoma

Squamous cell carcinoma is the most common oropharyngeal tumor seen in the older cat. This very aggressive disease is treatable by surgery in only about 50 percent of the patients because it involves the tongue or its base. The median survival rate from time of diagnosis is one to three months because the animals are euthanized at that time because of the inability to eat. The tumor is usually not diagnosed until it has progressed substantially. Owners first notice something is amiss when the cat is not grooming itself and is reluctant to eat. This tumor is very similar to advanced head and neck cancer in humans, which too has a very poor prognosis for treatment. Only 15 to 30 percent of patients with advanced head and neck live five years or more after diagnosis.

Dr. Sydney Evans, assistant professor of radiology at the School of Veterinary Medicine, University of Pennsylvania, is investigating a treatment protocol for feline oral squamous cell carcinoma, using a new cell sensitizing drug and radiation treatments. Cats with these tumors, when treated by radiation alone, have a median survival rate of four months. "It has long been suspected that the low success rate of radiation treatment for these tumors has been due to hypoxic tumor cells which are radiation resistant," said Dr. Evans. "Hypoxic cells are oxygen poor and they are not easily killed by radiation. One can make a hypoxic cell more receptive to radiation by administering drugs which change the cells' state of oxygenation." Unfortunately, these drugs, when given in quantity, are neurotoxic and cause damage to central and peripheral nerves. Because this tumor in the cat can represent an animal model for human head and neck cancer, new treatment modes used in animals can provide a great deal of information for new treatment of human patients.

Dr. Evans and her colleagues studied the effects of etanidazole when it is injected directly into the tumor bearing tissue to see whether this method could improve the outcome of radiation therapy.

Eleven cats with measurable oral squamous cell tumors were entered in the clinical study. Thoracic radiographs were performed, as well as blood tests. The tumors were biopsied and staged. Seven of the cats also had skull radiographs while four received an MRI. Each cat received 12 radiation treatments, given three times a week over 16 weeks. Between treatments most of the animals were at home with their owners.

For each treatment the animals were anesthetized so that they would remain still during radiation. Thirty minutes prior to radiation treatment, the tumor, as well as surrounding normal tissue, was injected at 5 mm intervals with etanidazole. The first four cats studied received the drug prior to every other treatment. The fifth cat received the drug injected into the tumor and intravenously on alternate treatments. Because no significant toxicity was observed, the amount of the drug injected was increased for the remaining cats, and the drug was administered prior to each radiation treatment.

In addition, pharmacokinetic studies were conducted in four cats. It was observed that drug levels in the plasma peaked 14 minutes after intratumor injection. Some of the patients developed self-limiting fevers and leukopenia (low white blood cell count). After radiation treatments ended, cats were seen at regular intervals for examination and/or biopsy of the tumor site.

In all cats, tumor regression occurred during the course of therapy. In most cats this correlated with the resolution of anorexia, return of grooming habits and stabilization of weight. "The local tumor response has been encouraging, especially in those cats with tongue squamous cell carcinoma," said Dr. Evans. "For the six cats with the lesion of or under



A squamous cell carcinoma prior to treatment.



The same site after treatment.

the tongue who completed the protocol, the median time to progression and survival as of early September was 122 days. This compares favorably with the data from previous studies in which the median survival rate for cats with tongue squamous cell carcinoma is 31 and 91 days respectively."

Of the 11 cats treated, three remain without

evidence of local tumor progression. Five cats have had local recurrence at 55, 125, 139, 202, and 331 days post treatment and have been euthanized. Three cats died, one due to pulmonary metastases, pulmonary thromboembolism and pneumonia, one due to a tracheal obstruction, and one due to osteonecrosis. This can be compared to previous studies of radiation alone, where the recurrence is reported at 46 to 142 days following diagnosis. Six animals were autopsied and viable and necrotic tumor cells were found at the treatment site.

"We chose to investigate the IT route of drug administration because we expected it to result in an optimal ratio of tumor response to normal tissue toxicity," said Dr. Evans. "The IT route for radiosensitizers was of particular interest in light of previous data which suggested that failure to improve outcome resulted from the inability to achieve adequate tumor drug levels before dose-limiting neurotoxicity."

While this treatment does not offer a cure, it does provide a longer quality life for these feline patients. When the tumor recurs, no further treatment is given and the animal is euthanized. Dr. Evans said that "the present study had encouraged continued technical and dosing modification of IT etanidazole administration in feline squamous cell carcinoma and other animal tumor models. While IT therapy alone is promising as a route of administration in easily accessible, well visualized lesions, it may, in the future, have an even more important role in supplementing systemic administration, particularly of bulky, hypoxic tumor sites." The study was a joint project with the Fox Chase Cancer Institute. In addition to Dr. Evans, Dr. Stuart Helfand and Dr. Thomas Van Winkle, and Deborah Allen, from the Veterinary School worked on the project.

Coping with Loss

It's 3:30 on a Tuesday afternoon, and a small group of sad-looking people are gathered in a room at the School of Veterinary Medicine. There's the young mother who, four weeks ago, had her much-loved dog euthanized; it was leaking urine all over the house; after a week of relief, the woman was dragged down by an overwhelming guilt about her decision, and not giving the dog a proper goodbye. Her husband sits at her side.

There's a woman whose 20-year-old cat screamed every night, for no reason that had ever been diagnosed. The woman, whose apartment echoes with quiet now, still feels badly that she didn't comfort the cat when, riddled with cancer, it was put to sleep; that was several months ago.

There's another woman who cried so hard when her cat died that she burst a blood vessel in her lung and had to be hospitalized. This was the cat that had sustained her when her husband died, 12 years ago; the cat which had sat with her at the dinner table and on the side of the bathtub, which had even accompanied her on a trip to Paris and cruised with her down the Seine.

And what they're all doing is sharing tales about the animals that they loved as dearly as people—and whose deaths have left them with a hole in their lives, and a palpable grief that feels like it just won't let up.

"It's important to talk to people who have animals," says Kathleen Dunn, M.S.W. a psychiatric social worker at the University of Pennsylvania School of Veterinary Medicine. She leads the Pet Bereavement Support Group at the School, one of few such groups in the United States. "Other people will tolerate you for a while, but then will often say

something hurting, like 'It was only an animal; why not get another one?'"

Although often incomprehensible to non-pet owners, a pet's death can be as devastating as the death of an important human being. "People sometimes feel a sadness so terrible that they think they'll never get over it," says Dunn, who is "on call" 24-hours a day for emergency cases.

The reason for this pain is the depth of the bond that's formed between most pet owners and their animal companions. "What happens when you select a pet is that you get very attached," Dunn says, "The relationship consists of lots of love and joy and fun — and, as I hear a lot, the unconditional love you get back from your pet. Because this bond is so deep, the animal becomes a person to you, part of the family — sort of a perennial two-year-old. And if the relationship is threatened by death or illness, it's like a child dying. It doesn't matter that what died was 'only' an animal; a loss is a loss is a loss."

The death of an animal can also stir up the memories of losing an important human being. "Someone in the group might say, 'I'm feeling as bad, or worse, than when my mother died,'" Dunn says. The stages of the mourning and grieving process that a pet owner goes through is analogous to the process made famous by death-and-dying expert Elizabeth Kubler-Ross. Pet owners often experience anger, either at the veterinarian who couldn't "save" their pet, or at themselves for not taking certain steps that might have prevented their animal's demise. At another point they may feel guilty, because they didn't follow their veterinarian's advice exactly, or because they chose to euthanize a failing animal that

might have lived a while longer. Other pet owners worry that they're going crazy because they think they see or hear their deceased animals.

Other factors may cause upsetting feelings as well, such as important and difficult decisions including how to dispose of the pet's body. Dunn approves of the procedure at the School of Veterinary Medicine in which an animal's body is held at the hospital for three days after a decision has been made, in case the owner changes his mind and chooses to bury or cremate the animal privately.

"But even though there are common things that many people feel, the way people respond to their pet's death is very individual," Dunn says.

Some people respond by eating or sleeping either too much or too little. Others find they have a difficult time concentrating on even the most mundane of tasks, while some people seek solace in drugs or alcohol to lessen the pain. In fact, Dunn encourages grieving pet owners who have chronic medical conditions to check with their physicians; the loss of a pet is a stress so severe that it can trigger an attack or relapse.

Men and women often respond differently to a pet's death. "Women tend to talk more," says Dunn. "Men may pace, or smash their fists together. They're just as upset, but they show it differently." Talking with other grieving pet owners is probably the most powerful component of healing; tears of empathy and nods of understanding often punctuate the session. People sometimes bring photos of their pets to the group, while others share writing or artwork they've created to honor their animals.

But Dunn's approach is multi-faceted: She urges group members to keep busy. She tells them to exercise. She suggests they write letters to their pets, and to keep a diary of how they're feeling. She also

encourages them to re-claim experiences, with the support of an understanding friend, that had been shared with the now-deceased animal; for instance, to walk the same park path that used to be the favorite stroll with the dog.

Another useful resource is *When Your Pet Dies: How to Cope With Your Feelings*, by Jamie Quackenbush, M.S.W. who was affiliated with the School of Veterinary Medicine. The support group began in July 1987.

Dunn screens prospective group members to make sure that a group experience would be the most effective form of treatment. Also, she tries to choose members who will stay focused on pet bereavement. "Some people, who might have more severe psychiatric problems, use the animal to get help," she says. "And it's sometimes easier to ask for help because your pet has died."

The group is appropriate for people whose animals are terminally ill, as well as for people whose pets have died. "The group is open ended," says Dunn, who is a frequent lecturer about pet bereavement at the School of Veterinary Medicine. "You can come as often as you want."

Dunn tells of a mother of four teenagers, who joined the group with her two older children after the family had had the family collie euthanized. This already difficult situation was compounded by the fact that the dog was the only living creature responded to by the woman's mother, who had Alzheimer's Disease.

"Although the majority of people who come are dealing with a recent loss, we sometime get people whose pets died quite a while back — and sometimes they've already gotten a new pet (not that getting a new dog erases the memory of Fido or Rover). But they feel it's the only place they can talk about their

pets who've died with other pet owners who would understand."

Dunn shares an excerpt of a letter written to her by a woman who joined the group after her dog died of cancer: "As the one-year anniversary of my loss approaches, I can honestly say that I feel my pain will always be with me, but the group has taught me how to deal with it. Three months ago, I would never have thought of owning another dog, and I am now the owner of a seven-month-old puppy. She will never replace Butchie, but I know I will grow to love her."

Another letter was written by a woman who joined the group while her dog was terminally ill: "The grief I was able to share with others in my same situation allowed me to voice my true feelings and demonstrate a selfish outcry, something I am rarely able to do. A year after my dog's passing, I find myself still involved with the group to honor his loving memory."

Because there are only a handful of pet bereavement groups in the United States, group participants have come from as far away as Atlantic City and Baltimore. Students at the School of Veterinary Medicine sometimes attend the group, learning coping skills that they'll need as they progress in the profession. "I sometimes see students on the elevator who are taking a body to the morgue, and they're crying," Dunn says. "I tell them these are tears of love."

The group, which is free, meets every other Tuesday from 3 to 5 p.m. It is open to the public; grieving pet owners need not have had their animals treated at the School of Veterinary Medicine. Dr. Louise Shoemaker, Professor at the School of Social Work, University of Pennsylvania, is the Consultant for the Group.

Janet R. Folan

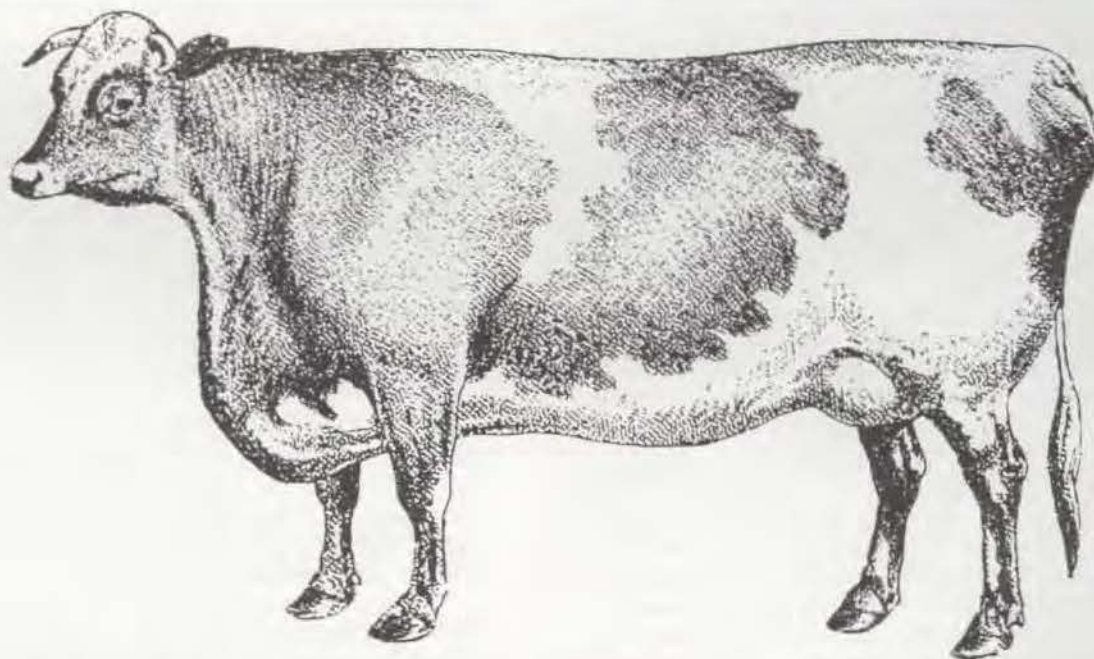
Parenteral Nutrition

Young, critically ill calves pose a special challenge for the veterinarian. Their energy reserves are slim, and this, coupled with the demands of rapid growth and coping with cold temperatures, can become a critical factor when such young animal becomes ill. Energy reserves are quickly depleted, particularly if the animal has diarrhea, a common ailment among young calves. Then dehydration is an additional danger, and the inability to tolerate normal amounts of milk feedings further limits what can be done to save the calves.

In recent years parenteral nutrition (PN), long in use in human medicine, has been adapted for use in animals. PN for calves, a specially formulated solution of dextrose, amino acids, sodium bicarbonate, lipids and multiple B vitamins, is administered intravenously. It helps the critically ill animal to retain weight and reverse dehydration.

Two recent studies at New Bolton Center, the large animal facility of the University of Pennsylvania School of Veterinary Medicine, by Dr. Thomas Divers, associate professor of medicine, and his colleagues looked at the effects of PN on critically ill calves. One randomized retrospective study examined 11 clinical cases, while the other, a controlled study, examined two groups of calves with diarrhea, one placed on PN, and one receiving conventional treatment, as a control group.

"The 11 calves studied, age four days to six weeks at hospital admission, received PN for three days or more", explained Dr. Divers. "All had diarrhea as their primary clinical sign. The diarrhea was believed to be due to Rota virus and Cryptosporidia in most of the calves. One calf was confirmed to have Bovine virus diarrhea; none were



found positive for *Salmonella sp.*"

Duration of diarrhea prior to hospital admission ranged from two to four days. Four of the calves could not stand at the time of hospital admission because of weakness. All calves had been housed in some type of outdoor "hutch" prior to hospitalization, eight of the cases were admitted to the hospital during the period of January to April.

Six of the animals had a fever at the time of admission or developed it within 24 hours thereof. Two calves had mild pneumonia and one could not suckle. Routine blood work was performed. The parenteral nutrition, formulated for each calf, was administered continuously into the jugular vein for a mean of 5.8 days (3-11 days). In addition the calves received milk, fed at two percent of their body weight,

divided into four feedings a day. Milk feedings were gradually increased to eight percent of body weight/day prior to discontinuing PN. All calves were offered oral electrolytes free choice. Calves also received antimicrobial drugs via the same catheter used for PN.

Of these calves nine survived and continued to do well after discharge from the hospital. Two calves died, one with BVD and one with peritonitis associated with an urachal infection. The calves gained weight on PN, those gaining weight most rapidly needed to be on PN for the shorter times.

In the other study calves less than three weeks of age with diarrhea were purchased from farmers. They were free of *Salmonella sp.* and were randomly assigned to one of two groups, one group was placed

Parents and Partners

Rain did not dampen the spirit of family members of the students of the Class of 1993. On Saturday, September 16 the School hosted 165 parents and partners of incoming freshman to provide an overview of the veterinary education at Penn. The morning session included topics on the curriculum, student financial aid and the small animal hospital's emergency service; tours of the hospital followed.

Following lunch and a pleasant bus ride to New Bolton Center, Dr. Elaine Hammel and Dr. James Orsini presented an overview of the large animal facility and conducted tours of the various buildings as well as bus tours of the grounds.

At the conclusion of the day, students rejoined their family members for conversation and refreshments.



on PN, limited milk feedings and electrolytes, while the other received milk feedings and electrolytes. All calves also received an antimicrobial drug for 14 days.

The survival rate for calves in both groups was the same, however, calves receiving PN had an increased weight gain and improved appearance and attitude than did the control group. Dr. Divers feels that parenteral nutrition appears to be an effective means of providing a large portion of the caloric needs to calves that cannot take appropriate amounts of milk orally.

"The amount of PN administered intravenously is probably only supportive for the sick calf as we don't know the exact metabolic needs of each sick calf," he said. "PN helps to prevent the skid so often seen in seriously ill young calves, and the feeding of some milk provides additional energy and protein along with vitamins and minerals and helps maintain intestinal enzyme activity."

Dr. Divers pointed out that the primary benefit of PN is seen in calves with enteric disease that do not have life-threatening diseases of other organs. He stressed that nursing care and a proper environment must be part of the PN treatment. It is not a treatment done easily in the field, rather it requires close monitoring and supervision to detect any changes in the status of the animal.

Parenteral nutrition for critically ill patients is used not only for calves, but also for foals at New Bolton Center as well as for the treatment of cats and dogs at VHUP. This technology, "borrowed" from human medicine, is saving countless lives, particularly when the patients are very young animals.

The field study of the effects of parenteral nutrition was done in conjunction with researchers from the University of Wisconsin and Baxter Laboratories.

Dr. Abt Appointed Marshak Term Professor

Donald A. Abt, professor of epidemiology and biostatistics at the University of Pennsylvania School of Veterinary Medicine, has been named the Robert R. Marshak Term Professor of Aquatic Animal Medicine and Pathology. The chair is the nation's first in aquatic animal medicine to be established at a veterinary school.

As holder of the chair, Abt has become the director of the Laboratory for Marine Animal Health (LMAH), a diagnostic laboratory established in 1981 by Penn and the New York State College of Veterinary Medicine at Cornell University that is a part of the world-renowned Marine Biological Laboratory (MBL) in Woods Hole, Mass.

Founded primarily to study diseases of marine animals used in research, the laboratory has increasingly been called upon to participate in investigations of environmental and ecological problems. It has described more than 40 previously unknown diseases affecting marine life since its inception eight years ago.

Abt, a graduate of Penn's Veterinary School who joined the faculty in 1961, is director of the AQUAVET program, an intensive introductory course in aquatic veterinary medicine in which the LMAH plays a vital role. The annual course, held at the MBL, covers a broad sampling of topics, ranging from ecology and anatomy of marine invertebrates to marine mammal health.

In announcing Abt's appointment to the Marshak chair, Edwin J. Andrews, dean of the Veterinary School, said, "It is most fitting that the individual who pioneered our AQUAVET program and the School's focus on aquatic animal medicine and pathology be awarded this honor. He brings to this position his enthusiasm for this specialty area, his encyclopedic knowledge of the School and, indeed, veterinary medicine across the nation."

Abt is a member of numerous professional organizations including the American Veterinary Medical Association, the United States Animal Health Association and the International Association for Aquatic Animal Medicine. He served on the research advisory board of the Institute of Environmental Medicine at Penn from 1978 until 1986 and the J.F. Kapnek Charitable Trust since 1985.

Phyllis Holtzman

Doris Boucher Honored

For almost half a century Penn's veterinary students have been the beneficiaries of Doris Boucher's baking and dessert making skills. Newly married in 1940 she and her husband Bill (V'40) opened their West Philadelphia home to students. Later, when the Bouchers moved to Upper Darby, their home became a focal point for the many students who came to the School during the war years.

"We had an open house Tuesdays and Sundays," reminisced Doris Boucher. "Students came over for dessert, we would talk and sometimes have jam sessions." When the Bouchers moved to Media in 1945 where Dr. Boucher headed the Ambulatory Service, senior students rotating through the service lived in the same house. In 1950 the Bouchers moved across the street, and here Dr. Boucher would hold oral case histories and once the work was out of the way, dessert was served and music was made. The tradition continued until 1984 at New Bolton Center where the Bouchers moved in 1967, here the interns were included in the Tuesday throng.

In 1981, when Dr. Boucher retired from the faculty, Doris began her Thursday bake sales at New Bolton Center. The funds raised through this activity are donated to the Doris and William Boucher scholarship fund.

Doris Boucher's dedication to generations of Penn Veterinary students was recognized by the Auxiliary to the Pennsylvania Veterinary Medical Association at the recent PVMA meeting held in Lancaster. During a special luncheon Auxiliary President Mrs. Janet H. Dougherty presented Mrs. Boucher with a water color of the Allam House, painted by Ruthe Guenther, wife of Fred R. Guenther (V'52). The Auxiliary also made a donation to Mrs. Boucher's cookie fund. The citation read "This is in recognition of your Cookie Sale Project at the Widener Hospital at New Bolton Center, for funds which you donate to be used for student loans. It is also in appreciation of your many years of hospitality for staff and students of the Veterinary School of the University of Pennsylvania. You have been a true helpmate to your husband and his profession."

When Mrs. Boucher and her husband set out for Lancaster on October 14, she had no idea that she was to attend a luncheon in her honor. "I thought Bill was taking me to an antique show as part of a birthday celebration. Imagine my surprise when I was whisked into the room and found myself as the honoree. It was a wonderful surprise!"



Mrs. Boucher and Mrs. Ruthe Guenther with water color presented to Mrs. Boucher by the Auxilliary to the PVMA.



Animal Crackers

False Pregnancy

False Pregnancy (Pseudo-Pregnancy, Phantom Pregnancy, Pseudocyesis) is common in the dog and sometimes occurs in cats. It occurs after the heat period in animals which may or may not have been bred. The most noticeable sign is enlargement of the mammary glands six to twelve weeks after estrus. There may be secretion of a watery fluid or even milk. The bitch often becomes restless and may make a nest and mothers inanimate objects such as toys or slippers. Usually the condition will disappear without treatment. In some cases, a sedative and alternating hot and cold compresses on the engorged mammary glands may be helpful. There are reports of these bitches being used as foster mothers.

False pregnancy may occur in your animals after their first estrual cycle. It may follow every cycle or occur only occasionally. Veterinarians may recommend ovariectomy in bitches with recurring or severe false pregnancy.

It is advisable to check with your veterinarian. There is the possibility that the bitch might be pregnant or there may be a disease of the uterus (pyometra).

Book Review

The Atlas of Dog Breeds of the World, by Bonnie Wilcox, D.V.M. and Chris Walkowicz (TFH Publications, Inc., Neptune City, NJ 07753, \$100).

This big book, weighing over ten pounds, has a full history and description of over 400 breeds from all over the world. There are over 1100 full-color photographs. It is an ideal breed identification guide. The authors' belief is that pets should be chosen through knowledge of the breed. Breed information "will help dog owners see what causes the pleasing characteristics — as well as the ones that irritate them. Ingrained breed nature instills the sweetness, intelligence, loyalty, sturdiness, working and protective qualities that we desire in the various breeds. This very nature also motivates digging, yapping terriers; chasing, yelping herd dogs; aggressive, barking flock guards and mastiffs; straying, howling gun hounds; and independent, aloof sighthounds and pariahs."

Breeds are divided into eight groups. There are 23 flock guards included — only three (Komondor, Kuvasz and great Pyrenees) are AKC-recognized. White is the preferred color for flock guards — distinguishing the dog from the wolf, allowing them acceptance into the flock and making them visible from a distance when apart from the sheep.

There are 36 mastiff breeds, 17 recognized by AKC, including mastiffs, great Danes and Saint Bernards, as well as bulldogs, boxers, bull terriers and pugs. Rottweilers are also in this group.

There are 96 scenthounds, 68 gun dogs and 46 northern breeds. The Akits, Samoyed, chow chow and Pomeranian are AKC breeds in the northern group. There are 56 herding dogs, 47 terriers and 38 southern dogs. The sighthounds, pariahs and hairless breeds are in the southern group.

As interest in "rare" breeds increases, this book is an ideal source of information. In the description of each breed, the country or origin, weight, height, type of coat, color and breed registry (if any) are given. There is a glossary and bibliography. One omission is the address for breed registries (AKC, CKC, FCI, etc.) However, it is the best reference for identifying all known dog breeds.

Holiday Hazards

Christmas may be a hazardous time. Light cords, breakable ornaments and tinsel may cause injury. Holly, mistletoe and poinsettias are toxic if eaten. Chocolate contains a compound toxic to pets, causing vomiting, diarrhea, muscle tremors, seizures, rapid breathing and disorientation. Even one chocolate bar may be too much for a small dog.

A gift puppy should not be delivered just at Christmas. There will be more time to give it the attention it needs after the holidays. Give a leash and collar and a note saying the puppy will arrive soon.

Cold Weather Notes

Some dogs and cats live outdoors all the time. However, special care is necessary in cold weather. Windproof and waterproof shelter is necessary. It should be small with plenty of bedding. Check water at least twice a day. Extra calories are needed to help keep the animal warm. Cats may climb up into a warm engine of a parked car. If there are cats in your neighborhood, knock on the car's hood before starting the engine. Garage doors are another hazard for cats.

Indoor housing is necessary for some breeds that cannot tolerate cold. Young puppies, older animals and dogs with health problems should be kept in a warm place.

Indoor pets require a few special arrangements. A sweater is a good idea for walks in extremely cold weather, especially for small, short-haired dogs. Dry off the dog after a walk in the rain or snow. Rock salt and other products used to melt snow and ice can irritate the paws. Inspect the paws for snow and chemicals after a walk — wash and dry if necessary.

Indoor pets tend to have less exercise during the winter months, so they may need less food. Cats may prefer to sleep and should be encouraged to exercise — playing with toys, etc.

Beware of antifreeze. Dogs and cats are attracted to it and may lap up the sweet stuff spilled on a garage floor. Immediate veterinary care is necessary if antifreeze is ingested. Many pets die as a result.

Veterinary Schools

There are 27 D.V.M./V.M.D. degree programs in the United States and four in Canada. In 1988-89, there were 8,574 students in the U.S. and 1,144 in Canada. Of the total enrollment, female students outnumber male students 57.5% to 42.5%, a trend that began in the 1985-1986 academic year. Enrollment continues to decline.

The class of 1993 at the University of Pennsylvania School of Veterinary Medicine has 110 students, 74 (67%) women and 36 (33%) men. The average age is 26.6 years. 103 have undergraduate degrees (32 BA and 71 BS) and six have graduate degrees (one MA, four MS and two MBA). Only seven students matriculated after their third year of college. 72 (65%) of the class are Pennsylvania residents. 21 (19%) come from contract states, two from Connecticut, one from Delaware, four from Maryland, one from Maine, 12 from New Jersey and one from Vermont. There are three from California, one from Michigan and eight from New York.

Priorities are changing in veterinary practice. Companion animals are becoming important to the

well-being of their owners. Among livestock, disease may be manifested by decreased productivity rather than illness. Disease may be related to nutrition, management and environmental factors. Many of the infectious diseases which were of great importance in the past have been brought under control. Food-borne diseases are causing sickness in people and economic losses. The veterinary profession should be concerned about the safety of foods of animal origin. Animal owners have come to expect the veterinarian to help keep animals healthy and productive. Genetic problems, metabolic and chronic diseases, along with skin disease, have become important in small animal practice. As pets live longer, geriatric problems are more frequent.

Veterinary medicine has become a challenge. Specialization is increasing. It still offers a rewarding and productive career.



Ferrets

The domestic ferret (*Mustela putorius furo*) has become quite popular as a household pet. It is estimated that 6 to 8 million are kept in this country. Mail order catalogues offer products for ferrets — shampoos, grooming brushes, carrying bags, toys and a special harness and leash.

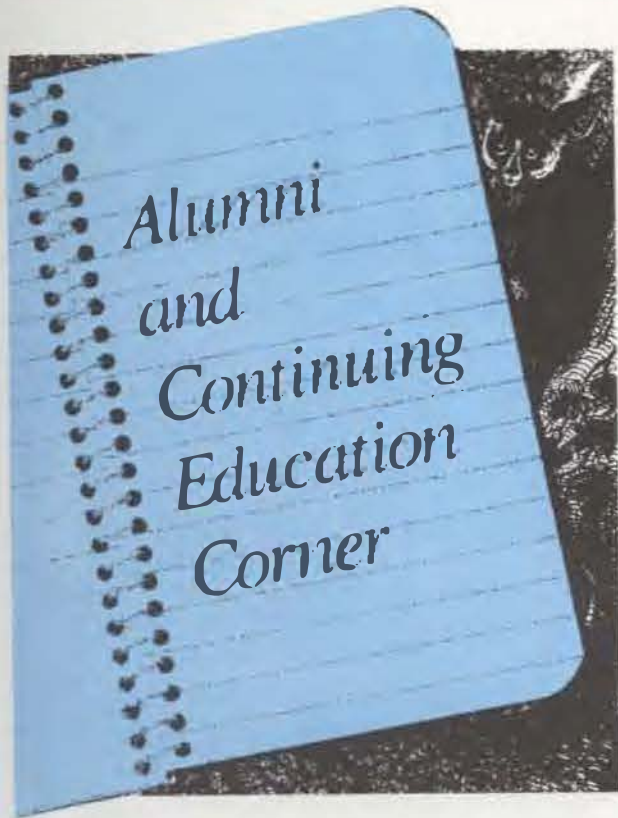
Some states (California, Georgia, New Hampshire) prohibit the keeping of ferrets and there are laws regulating possession in other states. Check local laws before obtaining one as a pet. The American Veterinary Medical Association warns that ferrets may be dangerous to infants and small children — attacking and biting them without provocation. Be sure a ferret will fit into your lifestyle before considering it as a pet.

Female ferrets are called jills and the males are hobs. They need a "ferret-proofed" home. They can crawl through openings two inches in diameter, and should be kept under supervision when not caged. They can be trained to use a litter box. Commercial ferret diets are available. Water must always be available — a hanging water bottle prevents spillage. They tend to cache food so dry food is preferable to canned products and table scraps.

Body odor is a problem with ferrets. The anal sacs must be removed surgically — a pet ferret will empty its anal sacs when frightened and the odor is foul. Neutering is indicated for the pet ferret. In the hob, castration decreases inappropriate urination, decreases aggression and helps control body odor. If the jill is not mated, she will remain in continuous estrus, causing bone marrow hypoplasia and death. The pet jill should be spayed. Neutering may be done at five months of age.

In addition to neutering, ferrets must be bathed once or twice a week to keep body odor under control.

Ferrets have been domesticated for centuries. Understand the special problems and requirements and be sure you can be a responsible owner. Too many ferrets have been abandoned by disenchanted owners.



Come One, Come All to the 1990 Penn Annual Conference on Wednesday & Thursday, January 24 & 25 at the Adam's Mark Hotel

This year's program will include:

Dr. David Twedt, Colorado State University

I. Gastric and Esophageal Disease in Small Animals. Review of common upper gastro-esophageal disorders, diagnosis and their treatment. Case examples will be given.

II. A systematic approach to the patient with chronic diarrhea. Diagnostic techniques, differential diagnosis and treatment will be given.

Dr. Stephen D. White, Colorado State University

A thorough but succinct discussion of antibiotics, corticosteroids, nutritional supplements, and other oral and systemic drugs utilized in small animal veterinary dermatology. Topical and otic therapy will also be discussed. All hormonal diseases which can have cutaneous signs will be discussed in regard to their presentation, diagnosis and therapy.

Dr. Katherine Quesenberry, Animal Medical Center, New York

Basic diagnostic and treatment techniques used in the medicine and surgery of popular exotic pets will be outlined, including pet birds, ferrets and rabbits.

Dr. Peter J. Timoney, University of Kentucky

Herpes and Influenza Virus Infections in the Horse will be reviewed with regard to their respective clinical, virologic, diagnostic and epidemiologic features. Current preventive strategies for each disease will also be considered.

Dr. John Stick, Michigan State University

Practical approach to diagnosis of surgical problems of the head and neck of the horse, videoendoscopy of airway problems, recent advances in surgery of the airway and esophagus.

Dr. J. F. Prescott, University of Guelph

Dr. Prescott will discuss the control of *Rhodococcus equi* pneumonia in foals and Leptospirosis in cattle and horses.

Dr. Franklyn Garry, (private practitioner, Colorado), will discuss ruminal disorders in cows and calves.

Last year 700 veterinarians attended — don't be left out this year. Many more speakers and lectures are scheduled. Watch for your brochure in the mail!

Scholarships

Katrina Jackson was awarded the Westminster Kennel Foundation 1989/90 Scholarship. **Lori Basonis** is the recipient of a scholarship offered by the Somerset Newspapers, Inc., Somerset, PA. The Northwestern Connecticut Dog Club, Inc. awarded a scholarship to **Amy L. Grice**. Ms. Grice is also the recipient of a Career Advancement Scholarship offered by the Business and Professional Women's Foundation.

Diane Morris, Robin Pullen, Tiffany Bogart and Ken Turner are the recipients of scholarships offered by the New Jersey Veterinary Education Foundation. **Scott Johnson** received the Town of Thomaston Dietz scholarship. Thomaston is in Maine. The William Goldman Foundation has awarded scholarships to **Cynthia DiBuono, Gregory Erdman and Karen Hoffman**. The Mispillion Kennel Club has awarded the **William E. Spence D.V.M. Veterinary Scholarship to Corinne Dunagan**. **Steven Milden** is the recipient of a scholarship offered by the Union County K.C.

Judith Palm has been awarded a scholarship by The New York Farmers, Inc. **Cathy Schweingraber** is the first recipient of a scholarship from the AFR Cat Club.

Gwyn Groman received a scholarship from the Mid-Susquehanna Valley Kennel Club, Inc.

Dr. Palace H. Seitz Memorial Dean Scholar Fund

Randy Sliker has been named the Dr. Palace H. Seitz Dean Scholar. The endowment of the Dr. Palace H. Seitz Memorial Dean Scholar Fund was made possible by a large bequest made to the School by Dr. Seitz. Interest from the fund will be used to provide financial assistance for tuition, living expenses and other costs to a freshman student who will continue as the Dr. Seitz Dean Scholar for his/her four years at the School. A new student will be selected every four years. Dr. Seitz who graduated from the School in 1930 served as secretary-treasurer of the PVMA for 28 years. He died in 1988.



Canine Symposium

The Twentieth Annual Canine Symposium *Your Veterinarian and Your Dogs* will be held on January 27, 1990 at the Veterinary Hospital of the University of Pennsylvania, Philadelphia.

The day-long event begins 9:30 a.m. **Dr. Colin E. Harvey**, professor of surgery, will discuss **Canine Dentistry**. He is followed by **Dr. Robert J. Washabau**, lecturer in medicine, who will speak about **Diagnostic and Therapeutic Endoscopy in Small Animal Medicine**.

In the afternoon **Dr. Meryl J. Littman**, assistant professor of medicine, will discuss **Lyme Disease**. The final program, **Liver Disease in Dogs**, will be presented by **Dr. Jerry R. Waddle**, lecturer in medicine.

The cost of the program is \$40. It includes lunch and parking. Space is limited and reservations are required. They can be made by contacting **Dr. M. Josephine Deubler**, Veterinary Hospital, 3850 Spruce Street, Philadelphia, PA 19104.

Penn Celebrates 250th Throughout 1990 — Key Events Slated for Alumni May 16 to 20

In 1990, the University of Pennsylvania will celebrate the 250th anniversary of its founding by Benjamin Franklin, with a year-long agenda of festive, historic and educational events.

The year of celebration will begin on Ben Franklin's birthday, January 17, 1990, with a special note, as bells on campus and throughout the city chime in commemoration. A special exhibit of Ben Franklin's writings, portraits of Franklin and historic memorabilia will open with a reception at the Arthur Ross Gallery that evening. President Hackney will host a birthday dinner to which representatives of all parts of the University, community and city organizations will be invited.

For alumni, festivities reach their height during "Peak Week," May 16 to 20, opening with a picnic and fireworks on Wednesday the 16th. The evening of May 17, there will be a sound and light show, gala dinner, dancing and musical entertainment. Friday, May 18, has been set aside for graduate and professional schools and reunion class receptions and dinners. On Saturday night, May 19, national theater and film stars will share the stage with Penn performers at the Civic Center.

In addition, three plenary sessions on issues of global importance will be presented by internationally known leaders on May 17, 18, and 19. Ronald Reagan will present the May 18 session.

Also during "Peak Week," distinguished scholars from Penn and other universities here and abroad will take part in a series of three colloquia on such subjects as Mass and Elite Cultures in the Arts, Molecular Biology and Medical Therapies, and The Emerging Global Marketplace.

University alumni and faculty will conduct 90 Alumni/Faculty Exchanges on the morning and afternoon of each of the three days, May 17, 18 and 19. The topics will include: Class and Sport in Philadelphia, Aging as a Creative Experience, African-American Poetry, China and the Soviet Union, Revitalizing America's Cities, Advances in Cancer Treatment, Business Code of Ethics, and The Brain and the Immune System.

The Fall Festival, scheduled for October and November of 1990, will feature performances by campus and local artistic groups and exhibitions by some of Philadelphia's leading cultural institutions.



AVMA President Samuel Strahm visited New Bolton Center campus prior to attending the PVMA meeting in Lancaster. Dr. Strahm is shown here with Dean Andrews.

Ribbons & Rosettes

Dr. Virginia Pearce (V'87) has been appointed director of the Laboratory of Pathology at the Philadelphia Zoological Garden following the retirement of Dr. Robert Snyder. Dr. Pearce has also been appointed adjunct lecturer in clinical studies at VHUP.

Dr. Adrian R. Morrison, professor, and head, laboratories of anatomy, has been elected to the Board of Directors of the National Coalition for Research in Neurological and Communicative Disorders, a group of over 50 professional and voluntary organizations dedicated to securing increased medical research funding for the neurological and communicative sciences.

Mrs. Eileen P. Conner, secretary to the laboratories of anatomy, won a second prize in the national contest sponsored by the National Association of College and University Business Officers (NACUBO) for her cost saving idea of having laser jet computer printer ink cartridges reconditioned instead of purchasing new ones. Mrs. Conner received a prize of \$7,500 for the department of animal biology at an awards luncheon in July.

The qualifying examinations for the American College of Veterinary Internal Medicine were passed by **Dr. Barbara Chapman**, lecturer in medicine, **Dr. Betsy Dayrell-Hart (V'83)**, lecturer in neurology, **Dr. Elizabeth Farrar**, lecturer in medicine, and **Dr. Leslie King**, lecturer in medicine.

Dr. Colin Johnstone, associate professor of parasitology in epidemiology and health economics, has been appointed chairman of the Agriculture Land Preservation Board of Chester County.

Dr. Victoria A. Hampshire (V'88) has joined the Commissioned Corps and is a clinical veterinarian in the Comparative Medicine Unit, Veterinary Medicine and Surgery Section, VRB, DRS, NIH.

Dr. Clara J. Witt (V'81) has joined the Office of Laboratory Science, National Cancer Institute, NIH, as a clinical veterinarian.

Dr. Yvette M. Davis (V'76) has been selected as an epidemiology fellow in the Division of Biometric Sciences, Office of Science and Technology, Center for Devices and Radiologic Health (CDRH), FDA, as part of the PHS Epidemiology Training Program.

Dr. David Meirs (V'54) has been elected to the AVMA House of Delegates Council on Education, representing private equine practice.

Dr. Michael Aronsobn (V'70) has been named chairman of the department of surgery at Angell Memorial Hospital in Boston. Dr. Aronsobn, who completed his surgical residency at the University of Pennsylvania, is a Diplomate of the American College of Veterinary Surgeons and is a clinical associate professor of surgery at Tufts University School of Veterinary Medicine.

Dr. Curtis Schelling (V'85), lecturer in radiology, passed his specialty board and is a Diplomate of the American College of Veterinary Radiology.

Dr. Dean W. Richardson, assistant professor of surgery and Charles W. Raker Scholar in Equine Surgery, received a grant from the Grayson Foundation for a research project "The Biochemistry and Morphology of Equine Articular Cartilage in Degenerative Joint Disease and their Relationship to Subchondral Bone Stiffness."

Dr. Patricia A. Murphy (V'89) has joined the staff of the Woburn Animal Hospital, Woburn, MA.

Dr. Janet Remetta (V'85) has been named chairperson-elect of the New Jersey Health Products Council, a nonprofit information and public affairs agency composed of New Jersey's major research-oriented health product companies. Dr. Remetta is manager of issues management for Sandoz Pharmaceuticals Corporation in East Hanover, NJ.

Dean Edwin J. Andrews (V'67) was a dinner speaker at the conference on "Research and Testing: Animals, Alternatives, Responsibilities," sponsored by the Corporate Office of Science and Technology, Worldwide Council of Research Directors, CORD Bio-research Subcommittee. The conference took place in September at New Brunswick, NJ. **Dr. Donald Abrutyn (V'61)**, director, Research Foundation, Johnson and Johnson Health Care Co., chaired Session II of this conference.

The Annual meeting of the PVMA featured a number of speakers from Penn, they were: **Dr. Darryl N. Biery**, professor of radiology and chairman, Department of Clinical Studies (Philadelphia), **Dr. Jeffrey Wortman (V'69)**, associate professor of radiology, **Dr. Sydney Evans (V'77)**, assistant professor of radiology, **Dr. Mark Saunders (V'81)**, lecturer in radiology, **Dr. Daniel Cohen**, adjunct professor of epidemiology, **Dr. Wendy A. Freeman (V'85)**, lecturer in field service, **Dr. Charles Newton**, professor of surgery, **Dr. Gail K. Smith (V'74)**, associate professor of surgery, and **Dr. Raymond W. Sweeney (V'82)**, assistant professor of medicine. The Dr. Palace H. Seitz memorial Lecture was delivered by **Dr. John DePlanque (V'73)** who spoke about "The Great Alaskan Dog Sled Race" where he served as a veterinarian two years ago.

Dr. William Moyer, associate professor of sports medicine, and **Rob Sigafuss**, farrier at New Bolton Center, will participate in the 1990 Bluegrass Laminitis Symposium in January at Louisville, KY. The two were also featured speakers at the Second Annual Mid-Atlantic Farrier's Symposium, held in October at Doylestown, PA.

Dr. William Adams (V'54) has retired from his position as associate dean and director of hospital services at the College of Veterinary Medicine, North Carolina State University.

Dr. Robert M. Schwartzman (V'52), professor of dermatology, was a featured speaker at the First International Veterinary Dermatology Congress held in September in Dijon, France.

The Seeing Eye, Inc., through the Morris Animal Foundation, has funded a three-year study, "Canine Hip Dysplasia: Heritability and Breeding Values from Clinical Measurement of Hip Joint Laxity", by **Dr. Gail K. Smith**, **Dr. Darryl N. Biery** and **Eldon Layton**, Ph.D.

Dr. Susan K. McDonough (V'68) was featured in a "Practice Profile" in the October issue of *Veterinary Economics*. Dr. McDonough owns the Cat Hospital of Philadelphia.

Dr. Marvin Norcross (V'59), deputy administrator of science, Food Safety and Inspection Services, United States Department of Agriculture, was among the top federal workers honored by President Bush as one of the winners of the 1989 Presidential Rank Awards. The awards recognize excellence in the federal government's Senior Executive Service and are presented annually to federal managers for sustained exceptional performance in government.

The Academy of Natural Sciences in Philadelphia features an exhibit on cows. **Dr. Robert R. Marshak**, professor of medicine, and **Dr. William Chalupa**,

professor of nutrition, acted as consultants for the exhibit which runs through January 15 and features a walk-through model of a cow's stomachs.

Dr. David K. Detweiler (V'42), professor of physiology, received the Distinguished Practitioner Award from the PVMA at the annual meeting held in October. Dr. Detweiler also was appointed to the National Academies of Practice, a group of distinguished practitioners who advise Congress on health care needs. Other Penn Veterinary School members are **Dr. William Donawick**, Mark Whittier and Lila Griswold Allam Professor of Surgery, **Dr. Robert R. Marshak**, **Dr. Donald R. Patterson**, Charlotte Newton Sheppard Professor of Medicine, and **Dr. Robert Whitlock**, Marilyn M. Simpson Professor in Equine Medicine.

A Baptismal font was given to St. Paul's Episcopal Church in Elkins Park, PA in memory of **Dr. Akarue Amachi (V'67)**. The font, created by ceramicist William Daly, features 20 animals, representing the beasts from Noah's Ark.

Dr. Vincent J. Cristofalo, professor of biochemistry and director of the Center for the Study of Aging, was recently elected president-elect of the Gerontological Society of America.

Dr. Linda H. Keller, research assistant professor of avian medicine and pathology, gave a presentation on "Protection against RECC-CU60 tumor cell development in JMV-1 culture supernatant-treated chickens" at the AVMA Annual meeting in July. That same month she presented a paper "Characterization of unique intestinal cytoxic cells and lymphokines associated with host defense against avian coccidiosis" at the Second International Veterinary Symposium, held in Hannover, West Germany.

Dr. Keller, **Dr. Charles E. Benson**, professor of microbiology and chairman, Department of Clinical Studies (New Bolton Center), **Dr. Sherril Davison (V'23)**, lecturer in avian medicine and pathology, and **Dr. Robert J. Eckroade**, associate professor of poultry pathology, presented a paper, "DNA Fingerprint comparison of Pennsylvania Field Isolates and Vaccine Strains of Laryngotracheitis" at 61st Northeastern Conference on Avian Diseases at Blacksburg, VA in June. **Drs. Robert Eckroade**, **Charles E. Benson**, and **David Kradel**, were invited speakers at the Food Research Institute Annual Meeting at Madison, WI in May and at the AVMA Joint Session of Public Health/Avian Medicine at Orlando in July. They spoke on "The *Salmonella enteritidis* situation in poultry." **Drs. Eckroade** and **Benson** also were invited to speak at the USAHA meeting in Las Vegas, NV on "Current information on *Salmonella enteritidis*: Naturally infected flocks and pathogenic characteristics."

The New York Farmers presented **Dr. Eckroade** with their medal which is "awarded for outstanding achievement in agriculture."

Dr. Martin M. Kaplan (V'44) presented the 1989 Isaac J. Wistar Lecture at The Wistar Institute of Anatomy and Biology on Dec. 1. in Philadelphia. Dr. Kaplan's lecture was titled: "Towards the Zero Level for Nuclear, Chemical and Biological Confrontation."

Dr. David Nunamaker (V'68), Jacques Jenny, Professor of Orthopedic Surgery, presented four papers at the ASIF Basic Course in Stockholm, Sweden in October.

Japanese Students Visit



A group of sixteen students and two faculty members from Azabu University in Kanagawa-Ken, Japan, visited VHUP for one week in August. The students, all in either their fifth or sixth year in veterinary school, were assigned to different clinics at VHUP and joined their American counterparts each day.

There are 15 veterinary schools in Japan, five, including Azabu, are private, while the remaining ten are state schools. Students in Japan enter veterinary school right after high school and the program lasts six years. At Azabu there are about 120 students in each year's class. The first two years at the university are spent in general education courses and the remaining four years are devoted to veterinary subjects. Apparently there is a great emphasis on food animals and horses, with companion animals taking the back seat. At Azabu University a greater emphasis is placed on companion animals and the school is striving to become a center for small animal medicine. The students on the trip all intend to become small animal veterinarians after graduation.

The exchange, the brainchild of Dr. Kenneth Bovee and Dr. Yoshito Wakao of Azabu University, was first talked about two years ago when Dr. Bovee lectured at the Japanese school. The sixteen students, in addition to staying at Penn, also visited the Animal Medical Center in New York for two days and did a bit of R and R in San Francisco. They paid the trip expenses themselves.

Dr. Bovee and Dr. Wakao hope that this was just the first of many exchanges. During a reception given by the Japanese group, gifts were exchanged and Dr. Wakao presented a check to Dr. Bovee. This, according to Dr. Bovee, will provide seed money for further student visits between the two schools.

Computer Link

The Laboratory of Pathology at the University of Pennsylvania Veterinary School evaluates more than 18,000 biopsy samples annually. Practitioners need the results rapidly in order to advise their clients. To speed up the transmission of pathology results to practitioners, the laboratory has installed a computer-based reporting system. Veterinarians can now obtain biopsy results 24 hours a day, seven days a week.

The new reporting system is accessible through any personal computer or most data terminals that are currently used in practice. A dial-in procedure enables the practitioner to access his security-controlled account at any time, and the system is updated once a day with new results. All results are accessible on a repetitive basis for two weeks before being removed from the system. Practitioners however will continue to receive written reports for each specimen/case submitted.

This new automated system is designed to replace the direct phone-in method of obtaining pathology results and to improve the responsiveness of getting these results to practitioners. The direct phone-in method will still be available for any case about which a practitioner may have questions or concerns.

The new procedure was developed and is supported by ID*2000 Incorporated. Practitioners interested in utilizing the reporting system should call the ID*2000 Customer Support Center at (609)768-5525. A representative will explain the system and review the type of equipment the practitioner may currently have. This will enable ID*2000 to send a personalized procedure manual and set up a personal account on the new system with a security password provided by the practitioner.

For those practices that may not have any type of data processing equipment, ID*2000 has put together a specially priced IBM compatible personal computer for this service as well as other practice software a practitioner may wish to use.

This new procedure will be a major enhancement of the School's service to practitioners. In the months to come other new features will be added.

Dean Edwin J. Andrews
of the
University of Pennsylvania
School of Veterinary Medicine
Cordially Invites All Alumni to Attend
a Reception and Dinner In Honor of

Donald A. Abt, V.M.D.

Robert R. Marsbak Term Professor
in Aquatic Animal Medicine and Pathology

Join us as we celebrate Don's 19 Years
of Service and Achievement
as Associate Dean to
Three Generations of Deans

Tuesday, January 23, 1990

Reception: 6:00 p.m. Dinner: 7:00 p.m.

Adam's Mark Hotel

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R.S.V.P. by January 15, 1990

I/We will attend the Reception and Dinner in Honor of
Dr. Donald A. Abt.

Number in Party _____

Name of Guest(s) _____

Enclosed is my check for \$ _____ (\$45.00 per person) for
dinner

Enclosed is my check for \$ _____ as a contribution for the
purchase of a special gift to be presented to Dr. Abt.

Name (Please Print) _____

Please make all checks payable to the Trustees of the
University of Pennsylvania.

1988-89 Pet Memorial Program

Euthanasia of a companion animal, even when it is the clearly the most humane course, is a very difficult decision to make for both owner and veterinarian. In 1982 we instituted the Pet Memorial Program as a means to make a memorial gift to help lessen the owner's grief. Since its inception, we have seen the

program grow enormously; over 24% in the past year alone. We are proud to announce our 1988-89 total of \$11,062 donated by 90 veterinarians from 15 states.

The Pet Memorial Program benefits many different people. With each gift veterinarians strengthen their relationships with clients, express concern for their loss,

and enable us at the Small Animal Hospital to provide state-of-the-art services to countless others.

Our thanks to the following veterinarians who have been so generous:

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