Shelter Medicine: The New Frontier for Veterinary Medical Education

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Presentation Outline

• What is shelter medicine?
• Benefits and challenges of the Shelter/Veterinary Medical College relationship
• The Purdue Maddie’s Shelter Medicine Program
Shelter Medicine – From Humble Beginnings to a Revolution in Animal Welfare

• **ASPCA, New York City**
  - From Henry Bergh in the 1890s to Dr. Lila Miller and Cornell CVM in the 1990s

• **Maddie’s Fund – Formed in 1999**
  - Mission: *To revolutionize the status and wellbeing of companion animals*

• **Association of Shelter Veterinarians – 2001**
  - Over 800 members and 22 student chapters worldwide
Guidelines for Standards of Care in Animal Shelters

The Association of Shelter Veterinarians • 2010

Authors:
Sandra Newbury, Mary K. Blinn, Philip A. Bushby, Cynthia Barker Cox, Julie D. Dinnage, Brenda Griffin, Kate F. Hurley, Natalie Isaza, Wes Jones, Lila Miller, Jeanette O’Quin, Gary J. Patronek, Martha Smith-Blackmore, Miranda Spindel
Shelter Evolution
Shelter Medicine Concepts

• **Infectious diseases**
  - Shelter-borne diseases
  - Zoonotic diseases and public health

• **Small animal population management**
  - Epidemiology – ‘Herd’ health and preventative veterinary medicine
  - Spay/neuter surgery, especially pediatric

• **Animal welfare**
  - Walking the walk

• **Animal behavior**
  - Canine behavior
The Shelter/Veterinary Medical College Relationship

The Good, the Bad and the Inspirational
Benefits for VMCs

• Exposure to real-world cases
• Students start thinking of horses rather than zebras
• Students learn to manage cases with limited resources
• Student surgical and research experience
• Career opportunities for graduates in shelters are growing
• $ savings in training students off-site
• Heightened student awareness of animal welfare
• Public relations and community goodwill
Cases seen by 1 DVM student at PAWS Chicago in a 3-week block

- Feline Panleukopenia
- FIV
- Feline herpes
- Medial luxating patella
- Canine heartworm
- Various skin abscesses
- Flea allergy dermatitis
- Arthritis
- Giardiasis
- Legg-Perthes Feline resorptive (odontoclastic) lesions
- Chronic renal failure (cat)
- Undiagnosed neurologic disease
- Inappropriate elimination
- Feline lower urinary tract disease
- Upper respiratory tract infections (many!)
- Otitis externa (bacterial and fungal)
- Various parasitic diseases (internal and external)
- Various diseases / physiologic states picked up during spays and neuters: cryptorchids, females in heat, pregnancy, etc.
- Cellulitis (canine paw)
- Canine urinary tract infections
- Multiple and various heart murmurs (from barely perceptible to “washing machine”)
- Various dental diseases (missing / retained teeth, fractured teeth, caries, etc.)
Surgery performed by 1 DVM student at HSI in a 6-week externship

SPAY/NEUTER
- Dog Spays - 17
- Cat Spays - 10
- Dog Neuters - 38
- Cat Neuters – 39
- Multiple pregnant animal spays up to full term
- Cryptorchid kitten surgery

MISCELLANEOUS SURGERIES
- Cryptorchid dog (inguinal)
- Spay hernia repair
- Umbilical hernia x3
- Mass removal x4
- Multiple dental extractions
- Emergency gastropexy
- E-tube placement
- Forelimb amp in german shepherd
- Dew claw removals on 1 dog
PURDUE UNIVERSITY SCHOOL OF VETERINARY MEDICINE
OFF-CAMPUS BLOCK EVALUATION BY MENTOR
(VM 89100) OR ADJUNCT FACULTY (VM 89000)

To: ___________________________  Date: ___________________________

Please complete this evaluation of ___________________________, a 4th year veterinary student, who spent a 3-week off-campus block with you between ________________ and ________________. Your report will be utilized by the faculty advisor of the student to establish a pass or not pass grade for this 3 credit hour course. Please complete this form and return it to the student in a sealed envelope.

Thank you for your support of our off-campus block program. This experience provides an added dimension of excellence to our veterinary curriculum.

I would evaluate this student's performance as follows (circle best rating):

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Excellent</th>
<th>Average</th>
<th>Poor</th>
<th>No Opinion</th>
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<tbody>
<tr>
<td>Academic Preparation</td>
<td>5</td>
<td>4</td>
<td>3</td>
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<tr>
<td>Academic Ability &amp; Inquisitiveness</td>
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<tr>
<td>Manual Dexterity &amp; Mechanical Skills</td>
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<td>Problem-Solving (Diagnostic) Skills</td>
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<td>General Attitude</td>
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<td>Willingness to Work and Accept Responsibility</td>
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<td>Oral Communication Skills</td>
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<td>Written Communication Skills</td>
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<td>Personal Appearance</td>
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<td>Interpersonal Team Skills</td>
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<td>Ethical Conduct</td>
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<td>Motivation Toward Veterinary Career</td>
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<td>Acceptance of Criticism</td>
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<td>Judgment/Objectivity</td>
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<td>Credibility/Integrity</td>
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<td>Initiative (self-starter)</td>
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<td>Dependability</td>
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<td>Leadership</td>
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<td>Emotional Stability</td>
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<tr>
<td>Neatness/Cleanliness</td>
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Comments (use back of form or a separate letter of evaluation)

Recommended grade (Please circle one) A B C D F

It is customary that we will hold this evaluation in confidence. However, many students desire to have feedback on their performances during the off-campus period. In that event, would you allow us to share your evaluation with the student? (Please circle one) Yes  No

Signed: ___________________________  Date: ___________________________

Title: ___________________________

Address: ___________________________

Phone: ___________________________
Shelter Medicine Lecture Course Assessment
How Is Animal Abuse Related to Domestic Violence? What can we do to help?
Christine Petrovits
Purdue University, DVM 2010

Background
An American Veterinarian Medical Association survey found that 86% of Americans consider their pets to be companions or members of the family. This close bond of families to their pets may help support the thought that there is a link between domestic violence and animal abuse. Pets are an easy tool for batterers to use against women since many battered women see their pets as their primary source of comfort and as a provider of strong emotional support. A study by Luke (1998) supported this. The study found that 70% of animal abusers also had records for other crimes such as domestic violence, and domestic violence victims whose animals were abused viewed the animal cruelty as a tool used to psychologically control and coerce them.

The Co-Occurrence of Animal Abuse & Domestic Violence
In a retrospective college study by DeGue (2008) 860 college students were interviewed from three universities located in the Midwest and West about whether they had experienced or witnessed child abuse, domestic violence, or animal abuse in their lifetime. The results revealed that 36.2% of the students said they had never been exposed to any form of abuse, 37.2% said they had been exposed to just one form of abuse, 17.8% were exposed to two types of abuse, and 4.1% had been exposed to all three forms of abuse (figure 1). This study also found that the students that have witnessed or experienced animal cruelty were significantly more likely to have been victims of child abuse and/or domestic violence compared to those students who were never exposed to animal cruelty (60% of students who were exposed to animal abuse were also exposed to family violence). This study also found that of the victims that experienced a form of family abuse, about 30% had been exposed to animal abuse (as shown in figure 2).

Animal Abuse and Child Abuse
A study by Devreey (1983) examined 53 pet-owning families being treated by a state child welfare agency for substantiated cases of child physical abuse and neglect. Evidence of concurrent abuse or neglect of a companion animal was found in 60% of these households. When cases were divided by the type of child maltreatment reported, the authors found that 83% of families with child physical abuse had existing records of companion animal abuse versus 34% of families with either child sexual abuse or neglect. These findings suggest that when children and animals are abused in the home, it is more likely that child victims of physical abuse than sexual abuse.

Abused Women Fearful of Pets Safety
Even though there is a growing amount of evidence supporting the occurrence of animal abuse in conjunction with domestic violence, few domestic violence shelters actually assess the presence of animal abuse in the homes of domestic violence victims.Ascione, Weber, and Wood (1997) surveyed 48 large domestic violence shelters across the United States. They inquired if women who entered talked about incidents of pet abuse, 85.4% of the shelters confirmed that they did. Additionally, the shelters were asked whether children who enter talked about incidents of animal abuse, 63% confirmed it did. Despite these findings, only 27.1% of the shelters actually asked questions about companion animals during intake interviews.

In a separate study by Flynn (2000), 107 women in a domestic violence shelter in South Carolina were surveyed. Forty percent of the women reported that they currently owned pets, and almost half (46.5%) of these pet owning women reported that their pets had been threatened or actually harmed by their abuser. Eight of the 20 women who reported that their pets had been abused reported that they delayed entering the shelter because they were concerned for their pets' welfare. About half (49%) of the women with pets continued to worry about them after they entered a shelter.

Ascione (1998) performed a similar study of 38 women in a domestic violence shelter in Utah, he found that 74% of the women in the shelter currently owned a pet or had previously owned a pet during the last 12 months. Seventy-one percent of the pet owning woman reported that their batterer had previously threatened to harm the pet, and 57% reported that their pets were actually harmed by their abuser. Most importantly, about one in five pet owning woman reported that they had delayed entering the shelter because of concern for their pets' safety and welfare.

What can we do to help?
Since women’s shelters do not accept pets, many women experiencing domestic abuse stay with their abuser out of fear that their beloved pets will be harmed if they leave. This leaves the women, their children, and the animals in the house at risk of severe physical violence, sexual assault, financial abuse, and even death. Something must be created to protect pets and their families from their abusers.

Battered women shelters should begin a program that assists incoming victims of domestic abuse in finding temporary or permanent homes for their pets. Having a program in place that provides safety to the endangered pets would enable woman to seek help and leave their abusive home sooner. Women’s shelters could work with their local animal shelters, veterinarians, and rescue groups to establish “safe haven” foster care programs for the pets of domestic violence victims.

Since there is proof that domestic and animal abuse often occur together, local, state and federal representative need to make and enforce tougher laws with stricter penalties for perpetrators of animal abuse and cruelty. Furthermore, there needs to be cross-training and cross-reporting among animal welfare, domestic violence, and child abuse agencies. These measures would help to remove abusers from their homes and put an end to the domestic abuse.

Veterinarians are often exposed to cases of animal abuse and domestic abuse yet most veterinarians have no training on how to look up signs of abuse or what to do when they suspect abuse is occurring. The University of Illinois offers a continuing education course at the Urbana conference where veterinarians are taught what kinds of injuries are consistent with intentional abuse, what laws exist to protect the patients, clients and themselves, and how to deal with suspected cases of abuse. If more veterinarians received similar training, more cases of abuse would be recognized and reported allowing the victims to be helped sooner.

REFERENCES
OVERPOPULATION VERSUS HOMELESSNESS
Does the United States really have a canine overpopulation problem?
Christopher Fulkerson
DVM Class of 2010, Purdue University School of Veterinary Medicine, West Lafayette, IN 47906

Background: The Dog Population in the United States
- Estimates include 76.1 million dogs in the US.
- 45% of households report ownership of at least one dog.
- Current population measures are limited by the fact they are nonrandom, based on small samples and are based on self-reports - there is no accurate census taken of the canine or feline population in the United States.
- 1.4% of owned dogs were acquired from animal shelters.
- 86% of owned dogs were acquired commercially and most were purchased as puppies.

Table 1. A study of shelters from across the United States revealed that a majority of dogs entering shelters are adults.

| Shelter Survey of Admitted Animals in 18 Animal Shelters in 42 States |
|--------------------------|------------------|
| Total Animals Admitted  | 74,497 |
| Average # of Animals Per Shelter  | 4,100 |
| Dogs                    | 373,847 |
| Cats                    | 3,781 |
| Adult                   | 83% |
| Puppies                 | 14% |
| Euthanasia              | 14% |

Discussion: Spay and Neuter Programs
- Animals breed less when spayed or neutered as the primary driving force responsible for the homeless canines in shelters.
- Efforts to control the population have included breeding bans, breeding fees and community spay/neuter initiatives.
- Spay and neuter programs have been the most effective method for reducing pet overpopulation as small changes in the birth rate can have dramatic long term impacts on a population as a whole.
- An intact female dog producing 2 litters per year and her offspring continuing to produce 2 litters per year will lead to 1,024 dogs in 4 years.
- Nearly 90% of shelters mandate spay or neuter at the time of adoption and many require spay or neuter prior to being adopted.
- Failure to spay or neuter an adopted pet results in forfeiture of adoption fees.
- A Minnesota study found that each dollar invested in spay and neuter initiatives produced $19 in long-term savings and a New Hampshire program that partially funds spay and neuter resulted in a 90% reduction in the state's euthanasia rate.
- These programs alone cannot end homelessness since many animals in shelters are adults, not puppies.

Are your pets sex offenders?
If you haven't neutered your dog or torn her down and given those pregnant against their will, give them a permanent demand for the Spca's daily because owners don't get their pets fixed.
- From a New Zealand Spca's website,

Summary and Conclusions
- Overpopulation is an inaccurate term to describe the existence of a smaller percentage of the animals in shelters than the animal shelter population.
- The number of puppies entering animal shelters has been greatly reduced through the successful implementation of spay and neuter programs.
- Spay and neuter programs appear to be the most successful and cost-effective method for reducing the pet population by limiting the number of puppies that are produced.
- Systematic monitoring of animal shelter entry and discharges is useful in assessing animal populations and adoption trends within a geographic region.
- Data collected from shelters can be used to develop local solutions to fight canine homelessness and abandonment.

References
Benefits for Shelters

- **Short-term**
  - Students provide labor
  - Preferred access to high-quality DVMs
- **Long-term**
  - Help train DVMs to alleviate the shortage of DVMs who understand their needs
- **Prestige of relationship with VMC**
Challenges for VMCs

• DVM students might not receive the one-on-one training with DVMs that they expect

• Possible public misperception that shelter animals are being used for ‘practice’ by students

• Dedicated faculty time is essential to manage the relationship
Challenges for Shelters

• Our ‘ivory towers’ may not be a good fit for limited shelter resources
• Students slow down the pace of shelter case management, especially in the surgery
• Shelter needs resident, high quality shelter DVMs
The Purdue Maddie’s Shelter Medicine Program
Major Goals

• To educate and train future leaders in the field of Shelter Medicine
• To conduct practically-relevant research in the areas of shelter medicine and pet homelessness
• To develop leadership in public education, dissemination of information and continuing education in Shelter Medicine
• **Funding** –
  - $0.9M - Years 1-3 (2008-2011)
  - $1.9M - Years 4-8 (2011-2016)
  - Total $2.8M

• **Collaborating shelters** –
  - PAWS Chicago
  - Humane Society of Indianapolis
Tangible Outcomes

• Six one-year shelter-based Fellowships in Shelter Medicine for DVMs
• Two residencies in animal behavior
• Three PhDs – Clinical epidemiology, infectious diseases, canine behavior
• DVM student lecture course (1-credit elective)
• Student chapter of Association of Shelter Veterinarians
• Annual Shelter Medicine Symposium
• Student externships in collaborating shelters – DVM and VT students
• Student Shelter Medicine Award
• Annual Maddie’s Summer Research Experience – DVM and Pre-Vet students


Litster AL, Nichols J, Volpe A. Prevalence of positive antibody test results for canine parvovirus (CPV) and canine distemper virus (CDV) and response to modified live vaccination against CPV and CDV in dogs entering animal shelters. *Veterinary Microbiology. In press*


PREVALENCE OF PROTECTIVE ANTIBODY TITERS AGAINST CANINE PARVOVIRUS (CPV) AND CANINE DISTEMPER VIRUS (CDV) AND RESPONSE TO CPV AND CDV VACCINATION IN SHELTER DOGS. Annette Litster, Jamieson Nichols. Purdue University School of Veterinary Medicine, West Lafayette, IN. *ACVIM Forum 2011*

CD4+ AND CD8+ T-LYMPHOCYTE MEASUREMENTS FOR FELINE IMMUNODEFICIENCY VIRUS (FIV) POSITIVE CATS. J Lin1, M Goyette1, M Beall1, G Kociba1, D DeNicola1, A Litster2, C Deka1. 1. IDEXX Laboratories, Westbrook, ME. 2. School of Veterinary Medicine, Purdue University, West Lafayette, IN. *ACVIM Forum 2010*
Keys to Success

• Communication
  □ Shelter VMC Student
  □ Listening with an open mind most important

• Commitment
  □ A long time should mean a good time

• Flexibility
  □ Big picture view

• Transparency
  □ Students need to know what to expect
Question Time

Thank you to Maddie’s Fund and the AAMVC