

AAVMC/APTR One Health Interprofessional Education
Case Study Student Materials

Maintaining Healthy Human and Pet Interactions

Authors:

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Learning Objectives:

Session 1: Pet Ownership

- Describe the benefits and risks of varying types of pet ownership.
- Relate the significance and risks of special populations such as immunocompromised patients and children.
- Recognize common zoonotic infections related to different types of pet ownership.
- Demonstrate communication skills in prevention and minimizing risks related to pet ownership.

Session 2: Animal Bites

- List risk factors related to animal bites.
- Treat animal bites including initial wound care, triage, and definitive treatment.
- Explain issues related to rabies including when to use pre and post bite prophylaxis.
- Discuss applicable laws and regulations related to animal bites.

Session 1

Risk and Benefits of Pet Ownership

Learning Objectives:

- Describe the benefits and risks of varying types of pet ownership.
- Relate the significance and risks of special populations such as immunocompromised patients and children.
- Recognize common zoonotic infections related to different types of pet ownership.
- Demonstrate communication skills in prevention and minimizing risks related to pet ownership.

No prereading required. See supplemental resources for additional information on this topic.

Case:

The parents of a 5 year old child wants to discuss the health implications of getting a new pet. They have never had a pet before and are still considering several types of pets. They would like your advice before deciding.

Small Group breakout #1:

Discuss the following questions in your small group. You may utilize lab top computers or other media devices to access web resources to help answer the questions. You will share your answers with the large group.

1. What are the benefits to pet ownership?
2. Are there studies that show benefits?
3. What are the risks of pet ownership?
4. How significant are these risks?
5. How do risks change based on the type of pet?

Case:

After some discussion, the parents disclose that their child underwent a bone marrow transplant for leukemia about 8 months ago. She is doing well currently and the parents would like to get a pet for her.

Small Group breakout #2:

Discuss the following questions in your small group. You may utilize lab top computers or other media devices to access web resources to help answer the questions. You will share your answers with the large group.

1. How does this child's medical condition affect her risk associated with pet ownership?
2. Are there certain pets that would be recommended to avoid? If so, which ones and why?
3. What other special populations are at higher risk from pet ownership?
4. What are the CDC recommendations on pet ownership by an immunocompromised patient?

PowerPoint presentation on Pet Ownership Risks and Benefits.

Case:

Six weeks goes by and the family returns to you. The family decided to get a puppy. They valued your previous advice and now want to know how to minimize any health risks.

Small Group breakout #3:

Discuss the following questions in your small group. You may utilize lab top computers or other media devices to access web resources to help answer the questions. You will share your answers with the large group.

1. What are the common zoonotic infections related to pets?
2. How can these infections be prevented?
3. If mom was pregnant, what counseling would you give?
4. What are non-infectious health risks and how can they be minimized?
5. Whose responsibility is it to educate pet owners on healthy interactions with their animal?
6. How can physicians, veterinarians, and public health officials work together to prevent zoonotic infections within the population they serve?

Veterinary questions:

- What shots/meds would be recommended for this puppy? When?
- Are there any lab studies that should be performed?

Public Health Question:

- How can local health departments decrease the risk of zoonotic infections within their community? What are the cost implications of such programs?

[PowerPoint presentation](#) on Zoonotic Infections.

Role Play

You will pair up with another student and the facilitator will assign each student with one of the following scenarios. Your partner will read you the clinical scenario and you will practice educating your partner based on the situation he/she is presenting to you.

1. A 24 year old 8 week pregnant cat owner comes in for a visit.
2. A 72 year old recently adopts a 4 year old poodle mix.
3. A family with a 2 year old and a 5 year old gets a new puppy.
4. A family with 3 year old dog will be having a baby in about 1 month
5. A 7 year old gets a new pet turtle.
6. A newly diagnosed HIV positive individual has a cat.
7. A 45 year old golfer on a TNF blocker for psoriasis would like to get a pet.
8. A 42 year old woman takes in a stray cat.

Maintaining Healthy Human and Pet Interactions Assessment Questions

Session 1: Pet Ownership

1. Which of the following is a benefit of pet ownership:
 - a. Decreased rate of obesity
 - b. Decreased mortality rate after an MI
 - c. Increased medication compliance
 - d. Increased HDL cholesterol
2. The CDC recommends that immunocompromised patients avoid getting which type of pet?
 - a. Reptiles
 - b. Fish
 - c. Dogs
 - d. Cats
 - e. Ferrets
3. Which is the most likely source of a toxoplasmosis infection in people in the U.S.?
 - a. Cat exposure
 - b. Gardening
 - c. Eating undercooked meat
 - d. Exposure to mouse droppings
4. Which is the best way to prevent cat scratch disease?
 - a. Regular application of flea and tick medicine for pets
 - b. Regular treatment of heartworm prevention for pets
 - c. Declaw cats
 - d. Scooping out the litterbox on a daily bases
5. A 23 year old male has fevers to 101.5, body aches, poor appetite. He appears mildly jaundiced. He reports swimming in a lake in Ohio about 10 days ago. Which zoonotic infection is most likely causing his illness?
 - a. Bartonellosis
 - b. Borroliosis
 - c. Leptospirosis
 - d. Toxoplasmosis

Session 2 Animal Bites

Learning Objectives:

- List risk factors related to animal bites.
- Treat animal bites including initial wound care, triage, and definitive treatment.
- Explain issues related to rabies including when to use pre and post bite prophylaxis.
- Discuss applicable laws and regulations related to animal bites.

No prereading required. See supplemental resources for additional information on this topic.

Case:

Six months later, the family's dog gets tangled in wire while running through a field and suffers multiple lacerations. While freeing the dog, the dad sustains a bite wound to the hand.

- *Veterinary field: The owner presents with the dog for treatment. The owner has his hand wrapped in gauze that is blood tinged.*
- *Medical field: The dad present for treatment of the dog bite to the hand. His hand is wrapped in gauze that is blood tinged.*

Small Group breakout #1:

Discuss the following questions in your small group. You may utilize lab top computers or other media devices to access web resources to help answer the questions. You will share your answers with the large group.

Veterinary Questions:

1. What initial, immediate, treatment would you recommend for the dad?
2. When should rabies prophylaxis be recommended?

Human Medicine Questions:

1. What wound care should be performed?
2. Can you close the bite wound?
3. Should antibiotic prophylaxis be given?
4. When should rabies prophylaxis be recommended?

Legal Issues:

Small Group breakout #2:

Discuss the following questions in your small group. You may utilize lab top computers or other media devices to access web resources to help answer the questions. You will share your answers with the large group.

1. Does the bite need to be reported to public health officials?
2. Does the dog need to be quarantined?
3. If the bite was not provoked and the owner wanted to euthanize the dog, what are the legal and ethical issues related to this decision?
4. How can physicians, veterinarians, and public health officials work together to prevent animal bites within the population they serve?

Veterinary Questions:

- What are the liability issues related to the dad's hand bite?
- What are the liability issues if the bite wound happened in your office while he held the dog during your examination?

[PowerPoint presentation on Animal Bites.](#)

Additional Activity Assignment:

Create an educational material for families involving a human and animal health related topic. This could include a brochure, web resource, quick text/smart phrase for an Electronic Health Record, etc. Make it something useful to you and your colleagues that can easily implemented. You will be graded on creativity, quality of the material, accuracy of the information, and usefulness.

Due Date: _____

Maintaining Healthy Human and Pet Interactions

Assessment Questions

Session 2: Animal Bites

1. Which dog breed causes the most bites?
 - a. Pit bull
 - b. German Shepherd
 - c. Rottweiler
 - d. Mixed breed
 - e. No dog breed is overrepresented
2. Which medical condition makes the patient high risk for an infection following an animal bite?
 - a. Uncontrolled hypertension
 - b. Controlled diabetes treated with oral meds
 - c. Psoriasis treated with topical corticosteroids
 - d. Controlled asthma treated with inhaled corticosteroids
3. An 18 year old patient without any medical problems suffers a bite wound to the right hand 3 hours ago. He has 3 puncture wounds. He does not have any allergies to medications. What prophylactic antibiotic is recommended?
 - a. Azithromycin
 - b. Amoxicillin
 - c. Amoxicillin plus clavulanate
 - d. Doxycycline
 - e. Clindamycin
 - f. No antibiotic recommended
4. Which of the following animals can NOT get rabies?
 - a. Crow
 - b. Groundhog
 - c. Horse
 - d. Seal
5. Who should receive rabies post-exposure prophylaxis?
 - a. A person bitten by a wild rabbit
 - b. A person bitten by a known dog who has never received a rabies vaccine
 - c. A person that disposed of a dead raccoon without gloves and got blood on his hands
 - d. A person bitten by an unknown dog that could not be found

Maintaining Healthy Human and Pet Interactions

Standardized Patient Session

Student Guide

Patient: Stan/Amy Clemens

Setting: Human or veterinary Clinic

Scenario:

Mr/Mrs Clemens is coming to you to discuss safety issues related to pets in the home. In this scenario, a young family including a child, dad and a pregnant mom has recently moved in with the child's grandparent. The grandparent has pets that already live in the home. Your task is to determine the health risk factors related to having pets in the home and to counsel the family about ways to minimize these risks.

Tasks to accomplish during the visit:

Discuss healthy human and pet interactions including:

- Potential risks
- Common zoonotic infections
- Preventive measures to minimize risks
- ⊗ **DO NOT PERFORM A PHYSICAL EXAM**

Timeline:

5 min: Review the scenario and organize thoughts

20 min: Visit with Standardized patient (SP)

10 min: Fill out immediate self-assessment form

10 min: SP gives verbal feedback

You will receive written feedback as well.

Pre-readings:

Review the materials from session 1 and 2 of the Maintaining Healthy Human and Pet Interactions curriculum.

Supplemental Resources

Pet Ownership:

1. CDC: Health Pets Healthy People website: <http://www.cdc.gov/healthypets>
2. Compendium of Measures to Prevent Disease Associated with Animals in Public Settings, 2013. JAVMA, Vol 243, No. 9, November 1, 2013
3. Panel on Opportunistic Infections in HIV-Infected Adults and Adolescents. Guidelines for the prevention and treatment of opportunistic infections in HIV-infected adults and adolescents: recommendations from the Centers for Disease Control and Prevention, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. Available at http://aidsinfo.nih.gov/contentfiles/lvguidelines/adult_oi.pdf. Accessed 10/21/15.
4. Guidelines for preventing infectious complication among hematopoietic cell transplant recipients: a global perspective. *Biol Blood Marrow Transplant* 15: 1143-1238 (2009)

Zoonotic Infections:

1. CDC website has good overviews of each zoonotic infection. [cdc.gov](http://www.cdc.gov)
2. Compendium of Veterinary Standard Precautions for Zoonotic Disease Prevention in Veterinary Personnel. 2010. <http://www.nasphv.org/Documents/VeterinaryPrecautions.pdf>

Animal Bites:

1. Ellis R and Ellis C, Dog and Cat Bites. *Am Fam Physician*. 2014; 90(4):239-243.
2. Morgan M, Palmer J. Dog bites. *BMJ*. 2007;334(7590):413-417.
3. Bradley J, Dog bites: problems and solutions. Policy Paper: Animals and Society Institute. 2014. http://nationalcanineresearchcouncil.com/uploaded_files/publications/541422429_Dog%20Bites%20Problems%20and%20Solutions%202nd%20Edition.pdf
4. A community approach to dog bite prevention, AVMA task force on canine aggression and human-canine interactions, JAVMA vol. 218 no. 11, June 1, 2001.
5. Dryer JL, et al. Rabies surveillance in the United States during 2013. JAVMA. November 15, 2014, Vol. 245, No. 10, Pages 1111-1123
6. Manning SE, Rupprecht CE, Fishbein D, et al.; Centers for Disease Control and Prevention. Human rabies prevention—United States, 2008: recommendations of the Advisory Committee on Immunization Practices. *MMWR Recomm Rep*. 2008;57(RR-3):12.
7. Compendium of animal rabies prevention and Control, MMWR, 2011

Veterinary Medicine: Client Communication

1. Shaw J, Adams C, and Bonnett B. What can veterinarians learn from studies of physician-patient communication about veterinarian-client-patient communication? JAVMA Vol 204, No 5, 2004. <http://c.ymcdn.com/sites/www.vhma.org/resource/resmgr/imported/AdamsPaper.pdf>
2. Bonvicini K and Abood S. Communicating with a Client: Enhancing Compliance. <https://veterinarycommunication.org/practitioner/docs/Bonvicini%20&%20Abood,%20006%20Feline%20Proceedings.pdf>

3. More information on building communication skills can be found at the Bayer Animal Health Communication Project (<https://www.veterinarycommunication.org/homepage.php>). This is a collaborative project between The Institute for Healthcare Communication and schools of veterinary medicine.

Collaboration between Physicians and veterinarians.

1. Kahn L, Kaplan B, and Steele J. Confronting zoonoses through closer collaboration between medicine and veterinary medicine (as ‘one medicine’). Vet Ital 43 (1) 2007. <http://www.onehealthinitiative.com/publications/01%20Kahn%20et%20al%20%205-19%208Mar07.pdf>
2. Practicing “One Health” for the Human Health Clinician. <http://www.onehealthinitiative.com/publications/Practicing%20One%20Health%20Human%20Health%20Care%20Providers%20April%202012.pdf>

About the Authors

Robert Ellis, MD, FAAFP is an Associate Professor at the University of Cincinnati in the Department of Family and Community Medicine. He received his undergraduate and medical degrees from the University of Cincinnati and completed his residency at The Christ Hospital/University of Cincinnati Family Medicine Residency Program in Cincinnati, Ohio. He is a Fellow of the American Academy of Family Physicians. He frequently lectures on and writes articles related to human and animal interactions.

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