



Emergency Care Veterinarian

A teacher resource
developed by the American
Veterinary Medical
Association
www.avma.org



Why have a teacher guide?

The goal of AVMA-sponsored 4th-6th grade learning activities is to heighten awareness of the vital role that veterinary medicine plays in the lives of humans, animals, society, and the environment. This initiative has five objectives:

- To teach children that there is an inseparable relationship between animals and humans
- To teach children that veterinary science makes vital contributions to our world
- To teach children that veterinary science significantly impacts their lives everyday
- To interest young students in a career involving biology, mathematics, and applied science
- To promote a greater understanding of the scope of veterinary medicine

Describe an average day for an emergency room (ER) veterinarian

When the emergency room veterinarian first arrives at the hospital, he/she consults with the veterinarians and veterinary technicians from the previous shift and performs "rounds" during which the staff reviews the cases of all the animal patients in the hospital and discusses each one's diagnosis, care, and treatment plan. Usually the rest of the day centers around caring for the current animal patients, consulting with specialty veterinarians on complicated cases, updating owners about their pets, writing reports and ordering medicines, and treating emergency cases as they arrive. Some emergency room veterinarians also find time to write articles or books, while others present medical lectures to veterinary students or work with veterinary interns.

What kinds of emergencies does an ER veterinarian treat?

Like people, animals are subject to accidents and illness, so an emergency animal hospital has to be prepared to treat a wide variety of cases. For instance, emergency room veterinarians may see a dog that swallowed a foreign object (such as a small ball or a child's toy) or a rabbit with a cut that needs sutures, or a cat that has been hit by a car and is in need of emergency surgery. While many veterinary emergency hospitals primarily treat small animals such as dogs, cats, birds, mice, rabbits, and snakes, some specialize in emergency services for larger animals (horses, cows, etc.) and other emergency hospitals are equipped to handle any size or species of animal.

What kind of medical equipment is used to treat animals?

The equipment to treat animals is very similar to that found in human hospitals. Radiographs (X-rays) are taken to look at the patient's bones to see if there are any fractures. Magnetic resonance imaging (MRI) machines and Computed Tomography (CT or CAT) scans may be used to photograph the animal's internal organs. Blood tests are performed to monitor infection and illnesses. Lasers are now used routinely instead of scalpels during some surgeries. Endoscopes (tubes with tiny cameras on the end) are used to see inside an animal's digestive or respiratory tract or to retrieve foreign objects such as pennies or bottle caps from an animal's stomach.

What types of veterinary specialists are available today?

Just as in human medicine, veterinary medicine includes many different types of specialties. For example, **veterinary cardiologists** treat heart-related illnesses and perform heart surgery. **Veterinary oncologists** treat all types of cancer in animals. **Veterinary anesthesiologists** administer medications that relieve pain and keep the animal sedated during surgical procedures. **Veterinary neurologists** treat nervous disorders and perform brain and spinal surgeries. **Veterinary ophthalmologists** treat eye disorders. **Veterinary orthopedic surgeons** repair bone and joint injuries, and **veterinary soft-tissue surgeons** perform surgeries for digestive, respiratory, or other non-orthopedic problems. Veterinarians can also specialize in **emergency medicine**. *To see a complete list of recognized veterinary specialist organizations, go to the following page of the AVMA Web site:*
www.avma.org/education/abvs/specialty_orgs/default.asp.

What kinds of foods are toxic to animals and could result in a visit to an animal ER?

Some of the foods we eat everyday can be poisonous or even lethal to dogs and cats. Among the dangerous foods are: chocolate, which can cause hyperactivity, vomiting, muscle tremors, and seizures; grapes and raisins, which can cause vomiting and abdominal pain and contribute to kidney failure; onions, which can destroy red blood cells and cause severe anemia; and fatty foods, which can cause pancreatitis (a painful swelling of the pancreas that can make them very sick).

*For more information on common items that are dangerous to pets, read the AVMA brochure on **What You Should Know about Household Hazards** at:*
http://www.avma.org/animal_health/brochures/hazards/household_brochure.asp

Enrichment Ideas for this curriculum:



The timeline on side two of your poster has several discoveries that help veterinarians treat wild and domestic animals. Consider extending this lesson using this timeline.

1851— A French veterinarian, Dr. Tabourin, improved the hypodermic syringe to make it a more effective tool for veterinary surgeons and physicians. This medical invention made it possible to give injections to animals and people to treat or prevent disease.

1939—A veterinarian, Dr. Otto Stader, created the reduction splint to treat broken bones in dogs.

1954—Tranquilizers were developed for use on animals and humans. When a person or animal is hurt, tranquilizers calm them down so doctors can treat their injuries.

Glossary:

Anemia — a deficiency of red blood cells and/or hemoglobin resulting in reduced ability of blood to transfer oxygen to tissues

Computed tomography (CT, or 'CAT' scan) — machine takes 3-dimensional images of internal organs

Endoscope — a tube with a tiny camera on the end used to see inside an animal's body

Fracture — broken bone

Hyperactivity — a physical state in which an animal is abnormally and easily excitable or exuberant

Magnetic resonance imaging (MRI) — machine used to take pictures inside the body

Radiograph — X-ray images taken to look at a person or animal's bones

Suture — stitches used to close a wound to aid in healing

Treatment Plan — systematic course of action to treat an animal

Tranquilizer — medicine given to calm and relax an animal

Veterinary anesthesiologist — a veterinarian who specializes in administering medications that relieve pain and/or keep an animal asleep during surgical procedures

Veterinary cardiologist — a veterinarian who specializes in treating heart-related illnesses

Veterinary neurologist — a veterinarian who specializes in treating nervous disorders

Veterinary oncologist — a veterinarian who specializes in treating all types of cancer in animals

Veterinary ophthalmologist — a veterinarian who specializes in treating animal eye disorders
Veterinary orthopedic surgeon — a veterinarian who specializes in repairing bone and joint injuries

Additional Resources:

www.avma.org The American Veterinary Medical Association
www.acvs.org The American College of Veterinary Surgeons
www.veccs.org The Veterinary Emergency and Critical Care Society
www.asPCA.org/site/PageServer The American Society for the Prevention of Cruelty to Animals
www.avma.org/communications/brochures AVMA household hazards brochure
www.news.tbo.com/news/metro/MGBHO9A42UE.html Newspaper story - emergency veterinary clinic

Books:

ER Vets: Life in an Animal Emergency Room by Donna M. Jackson, 2005, Houghton Mifflin
I Want to Be a Veterinarian by Stephanie Maze, 1999, Harcourt Paperbacks

Articles from the University of Illinois, Office of Public Engagement:

Basic First Aid for Your Pet

www.cvm.uiuc.edu/petcolumns/index.cfm?function=showarticle&id=530

Family Disaster Plan Should Include Pets

www.cvm.uiuc.edu/petcolumns/index.cfm?function=showarticle&id=509

How To Help Emergency Vet Save Your Pet

www.cvm.uiuc.edu/petcolumns/index.cfm?function=showarticle&id=18

Inside the Animal ICU

www.cvm.uiuc.edu/petcolumns/index.cfm?function=showarticle&id=496

Killer Grapes and Other Concerns in Animal Poison Control

www.cvm.uiuc.edu/petcolumns/index.cfm?function=showarticle&id=359

Meet the Veterinary Specialist: The Ophthalmologist

www.cvm.uiuc.edu/petcolumns/index.cfm?function=showarticle&id=529

Pets Need Disaster Plans, Too

www.cvm.uiuc.edu/petcolumns/index.cfm?function=showarticle&id=26

Student Activities:

4th Grade Activity Sheet: *My Veterinary ER Journal*: The students will create a journal with entries for their day as an ER veterinarian based upon research they conduct about the duties of an ER veterinarian.

5th Grade Activity Sheet: *My Pet Emergency First-aid Kit*: The students will create a list of the supplies he/she would include in an emergency first-aid kit using the Internet for research and compare the items with what would be in a similar first-aid kit for humans.

6th Grade Activity Sheet: *Disaster Pet Care Planning*: The students will create a disaster plan for his/her pet(s) with an emergency evacuation kit of supplies based on the AVMA booklet entitled ***Saving the Whole Family***. The link is: www.avma.org/disaster/saving_family_brochure.pdf.

Vocabulary Crossword Puzzle Activity Sheet: The students will demonstrate knowledge of the vocabulary words by correctly solving a crossword puzzle using the definitions of each word as clues.