Introduction to Veterinary Forensics (Overview)

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Overview

• What is veterinary forensics?
• Importance of veterinary forensics
• The veterinarians role in veterinary forensics
  • Crime scene investigation
  • Examination of live victims
  • Examination of deceased victims
  • Expert witness testimony
  • The veterinarians role in animal abuse
  • Mandated reporting
• The future of veterinary forensics

What is Veterinary Forensics?

• Terminology to be familiar with:
  • Forensic
  • Forensic Science
  • Forensic Medicine
  • Clinical Forensic Medicine
  • Forensic Pathology

What is Veterinary Forensics?

• Veterinary Forensics
  • The application of a broad spectrum of sciences, including veterinary medicine, to answer questions of interest to a court of law

What is Veterinary Forensics?

Forensic Science = Forensics

Forensic Medicine

Clinical Forensic Medicine

Forensic Pathology

Importance of Veterinary Forensics

• Veterinary forensic science can be used to:
  1. Establish if a crime has or has not been committed which involves an animal
  2. Solve the animal related crime
Importance of Veterinary Forensics

- Society demands the investigation of crimes against animals

Veterinarians Role in Forensics

1. Crime scene investigation
2. Examination of live victims
3. Examination of deceased victims
4. Expert witness testimony

Crime Scene Investigation

- Veterinarians role on scene:
  - Triage of live victims
  - Assist law enforcement with evidence identification and examination
  - Assessment of the scene and its effects on the victims

Human vs. Animal Crime Scene Investigations

<table>
<thead>
<tr>
<th>Human</th>
<th>Animal</th>
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<tbody>
<tr>
<td>Multiple specialized forensic professionals</td>
<td>Typically no supporting specialists</td>
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<tr>
<td>Usually involve one or few victims</td>
<td>May involve few or numerous victims</td>
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<tr>
<td>Local and state labs available to analyze evidence</td>
<td>Work with veterinary schools or private labs throughout the US to analyze evidence</td>
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<tr>
<td>Involves a single species</td>
<td>Involves multiple species</td>
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CSI and Triage of the Live Victim

- Triage is the rapid sorting of animals on scene for examination and treatment priority based on medical condition
  - Animals are triaged at two different points on scene
    - Field triage
    - Intake triage

CSI and Triage of the Live Victim

- Triage coding of medical conditions
  - Red = critical conditions requiring life saving intervention (field triage)
  - Yellow = substantial medical conditions warranting assessment and treatment on scene or animals with medical conditions that may change over a short period of time (intake triage)
  - Green = minor medical conditions for which assessment and treatment can occur off scene

Crime Scene Investigation

- Veterinarians role on scene:
  - Triage of live victims
  - Assist law enforcement with evidence
  - Assessment of the scene and its effects on the victims

CSI and Evidence

- On scene, the veterinarian may need to assist law enforcement with:
  - Identification of evidence and its potential value
  - Proper preservation of evidence

- Evidence is anything that can prove or disprove a fact in contention
  - Such facts can be anticipated based on the applicable laws and your prior experience

CSI and Evidence

- The types of evidence that a veterinarian may assist law enforcement in identifying and examining could include:
  - Situational evidence
  - Physical evidence

The Importance of Evidence

- Evidence is used to:
  - Prove guilt or innocence
  - Identify victims
  - Identify suspects
  - Link the victim to a suspect and connect them to the crime

- CSI effect
  - Jurors expect to see forensic evidence
The Importance of Evidence

• The CSI effect refers to the exaggerated portrayal of forensic science on crime television shows such as CSI: Crime Scene Investigation, which influences public perception.

CSI and Evidence

• Failure to recognize the presence of evidence
  • Some items of evidence may be over looked by law enforcement, who are not familiar with the particular case at hand.

Crime Scene Investigation

• Veterinarians role on scene:
  • Triage of live victims
  • Assist law enforcement with evidence identification and examination
  • Assessment of the scene and its effects on the victims

CSI and Assessment

• On scene, the veterinarian should assess the overall scene and its effects on the victim(s)
  • The animal’s environment will directly impact physical exam findings
• Example: What physical exam findings might be present in an dog from a hoarding case living in the conditions pictured below?

• Answer:
  - May observe conditions such as:
    - Dehydration due to poor water quality
    - Interdigital dermatitis due to dirty and wet living conditions
    - Bacterial conjunctivitis due to dirty and wet living conditions, as feces can easily become integrated with the mud and be splashed onto the dogs’ faces and into their eyes
    - Depending on the ambient temperature, hypothermia maybe observed due to the inability to remain dry and inadequate shelter

Veterinarians Role in Forensics

1. Crime scene investigation
2. Examination of live victims
3. Examination of deceased victims
4. Expert witness testimony

Forensic Medical Exam of Live Victims

• Forensic medical examination of a live victim (clinical veterinary forensic medicine)
  - A veterinary forensic medical examination is a detailed exam done in order to methodically document physical findings and facilitate the collection of evidence from the patients’ body
  - A forensic exam starts at the scene
  - Cannot fully interpret exam findings without crime scene information

Forensic Medical Exam of Deceased Victims

• Forensic necropsy of a deceased victim (veterinary forensic pathology)

• Goals of a forensic necropsy:
  - Determine:
    - Cause of death
    - Manner of death
    - Contributory causes
    - Mechanism of death
    - Estimate the postmortem interval

Forensic Medical Exam of Live or Deceased Victims

• Medical examinations should occur as soon as rational, as some evidence may change with time
Forensic Medical Exam of Live or Deceased Victims

- Assessment of the evidence
  - The veterinary medical examiner will determine an opinion based on the facts of a case
  - These facts are based on crime scene findings, any history that may be available, medical exam findings, diagnostic or other forensic test results, etc.
  - These facts will need to be proven in the final report

Veterinary Forensics

- Multidisciplinary approach:
  - Law enforcement
  - Toxicology
  - Entomology
  - Anthropology
  - Pathology
  - Botany
  - Ballistics
  - Odontology
  - DNA analyst
  - Other forensic analysts

Forensic Medical Exam of Live or Deceased Victims

- The responsibility to “prove” a case does not lie on the veterinarian alone
  - Case investigation is a multidisciplinary approach
  - Veterinary evidence is only part of the case
  - Ultimately the judge or jury is the trier of fact
    - The veterinarian should simply present the facts of the case and their interpretation or conclusion drawn from such facts

Veterinarians Role in Forensics

1. Crime scene investigation
2. Examination of live victims
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4. Expert witness testimony

Expert Witness Testimony

- Veterinarians are typically qualified as an expert witness given their education
  - An expert witnesses can render an opinion on the evidence that falls within their area of expertise
  - The veterinarian must ensure that the court understands the applicable evidence
  - But must be aware of their limitations and the gaps in veterinary forensic knowledge
    - There is a definite lack of scientific research in the area of veterinary forensics
  - The veterinarian must be impartial and only draw conclusions based on what the evidence shows

The Veterinarians Role in Animal Abuse
The Veterinarians Role in Animal Abuse

• Veterinarians are the advocate for animals in society and must speak out about the abuse of these silent victims
• Mandated reporting

Mandated Reporting

• Not mandating reporting is a barrier to recognizing the seriousness of animal abuse
• “One medicine” approach
  • Healthcare professionals have a duty to protect animals, children, elders, and battered women
  • Veterinarians should be the leaders for setting the highest standards for animal welfare. As veterinarians are the rational and natural advocates for animals in society.
  • By addressing animal abuse veterinarians have the potential to save human and animal life as well as reduce suffering
  • Violence is a public health matter

Mandated Reporting

Veterinarian’s Oath

[Approved by the HOD, 1954; Revision approved by the HOD, 1969; Revision approved by the Executive Board 1999, 2010]

Being admitted to the profession of veterinary medicine, I solemnly swear to use my scientific knowledge and skills for the benefit of society through the protection of animal health and welfare, the prevention and relief of animal suffering, the conservation of animal resources, the promotion of public health, and the advancement of medical knowledge.

I will practice my profession conscientiously, with dignity, and in keeping with the principles of veterinary medical ethics.

I accept as a lifelong obligation the continual improvement of my professional knowledge and competence.

http://www.avma.org/about_avma/ethics/ethicscode.asp

Mandated Reporting

The American Animal Hospital Association supports reporting of suspicions of animal abuse to the appropriate authorities when education is inappropriate or has failed.

The association also supports the adoption of laws requiring veterinary professionals to report suspicions of animal abuse, provided such laws include provisions for immunity from civil, criminal or professional liability when filing such reports in good faith.

Veterinary professionals are likely to encounter many forms of animal abuse, ranging from minor neglect and animal hoarding to intentional and malicious harm. While some acts can be addressed through education, other forms of animal abuse can be related to other forms of violence. Studies have shown there is a link between animal abuse and other forms of violence, including child, spousal and elder abuse.

In order to encourage veterinarians and practice team members to be responsible leaders in their communities and to assist in the detection and reporting of animal abuse, the profession should educate its members to recognize, document and report animal abuse, develop forensic models, promote legislation concerning reporting by veterinarians and collaborate with other animal and human welfare groups and professionals within communities to eliminate the incidence of animal abuse.


Mandated Reporting


The AVMA recognizes that veterinarians may observe cases of animal abuse or neglect as defined by federal or state laws, or local ordinances. The AVMA considers it the responsibility of the veterinarian to report such cases to appropriate authorities, whether or not reporting is mandated by law. Prompt disclosure of abuse is necessary to protect the health and welfare of animals and people. Veterinarians should be aware that accurate, timely record keeping and documentation of these cases are essential. The AVMA considers it the responsibility of the veterinarian to educate clients regarding humane care and treatment of animals.


Mandated Reporting

• Currently, 14 states have laws that require veterinarian to report animal cruelty
  • Alabama, Arizona, California, Colorado, Illinois, Kansas, Maine (aggravated cruelty), Minnesota, Nebraska, Oklahoma, Oregon (aggravated cruelty), Pennsylvania (repeated acts by a colleague), West Virginia, and Wisconsin (animal fighting).

• Currently, 27 states have laws that provide immunity from civil liability for veterinarians who report in good faith

• Kentucky specifically prohibits veterinarians from violating the confidencial relationship between the veterinarian and the client, which includes voluntary reporting of suspected cruelty

Mandated Reporting

- Veterinarians often fall into the trap of thinking that owners who care enough about their animals to provide veterinary care are unlikely to abuse their animals.
- A survey conducted in 2003 in Colorado by American Humane found that two-thirds of veterinarians who responded had personally experienced a case of non-accidental injury.
  

Mandated Reporting

- Another barrier to reporting abuse is the existence of emotional blocks in the minds of professionals.
- These can be so powerful that they prevent the diagnosis from even being considered in quite obvious cases.
- The most important step in diagnosing abuse is to force yourself to think of it in the first place.

CASE EXAMPLE

Bama
The Future of Veterinary Forensics

- There is a large need for research in the area of veterinary forensic sciences
- Veterinary forensic sciences should be included in the core curriculum for all veterinary students
- Current educational opportunities in the area of veterinary forensics
  - The University of Florida, College of Veterinary Medicine in partnership with the ASPCA offers an online veterinary forensic sciences graduate certificate
  - http://www.forensicscience.ufl.edu/veterinary/
  - The ASPCA Veterinary Forensic Sciences program at the University of Florida offers numerous workshops and short courses each year
  - http://forensics.med.ufl.edu/
  - International Veterinary Forensic Sciences Association
  - http://www.ivfsa.org/

Summary

- Veterinary Forensic Sciences
  - The application of a broad spectrum of sciences, including veterinary medicine, to answer questions of interest to a court of law related to animal abuse
  - Society demands the investigation of crimes against animals
    - Veterinary forensic science can be used to:
      - Establish if a crime has or has not been committed against an animal
      - Solve the animal related crime
  - The veterinarian’s role in veterinary forensics includes:
    - Crime scene investigation
    - Examination of live victims
    - Examination of deceased victims
    - Expert witness testimony
  - Veterinarians are the advocate for animals in society and must speak out about the abuse of these silent victims
    - “One medicine” approach
      - Healthcare professionals have a duty to protect animals, children, elders, and battered women

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