

Field Necropsy of the Horse

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KEYWORDS

• Equine • Necropsy • Postmortem examination • Mortality • Investigation

KEY POINTS

- Prior to initiating a necropsy, consideration should be given to equipment, location, sampling, disposal and clean up.
- Use of a standardized approach will enable the practitioner to be better prepared to identify true pathologic lesions versus changes of minimal significance.
- On completion of the necropsy, observations should be recorded and assessed in the context of any clinical questions.
- If necessary, formalin-fixed and/or fresh tissues may be submitted to a diagnostic laboratory for further evaluation.
- In addition to the biologic samples, the laboratory-specific submission form should be completed including a brief history and necropsy findings along with specific diagnostic test requests or questions.

INTRODUCTION

This article provides an overview of the equine necropsy that can be used by veterinarians in the field. Use of a systematic process enables the practitioner to develop a familiarity with normal anatomic positioning and tissue appearance such that abnormalities are quickly identified. Although an exhaustive review of equine pathology is beyond the scope of this article, there are several excellent resources on equine pathology^{1,2} that may be used to aid in the interpretation of changes identified. Additionally, several articles elsewhere in this issue focus on disease processes in specific body systems.

Field Versus Laboratory Examination

Logistical factors often influence the decision to perform the postmortem examination in the field or have the carcass transported to a diagnostic laboratory with necropsy

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facilities. For animals dying on farm, transport requires not only a trailer of appropriate size, but also the ability to winch the carcass onto the trailer. Given that many horses are housed on small acreages such equipment may not be readily available on farm; however, commercial services are often available to facilitate postmortem animal transport. It is helpful for veterinary clinics to have this information readily available to inform clients of disposal options regardless of whether or not necropsy is desired. In the case of elective euthanasia, where the animal can be safely and humanely transported, it may be possible to euthanize the animal at the laboratory or have a staff veterinarian perform the euthanasia at the laboratory. Because the policy regarding euthanasia at laboratories varies significantly between facilities it is important to contact the laboratory to ascertain that this is an option before transporting the horse. There are often additional costs incurred by having the work done at a laboratory that preclude a client from selecting that option.

There are some benefits to having the examination be conducted in a laboratory situation. Many horses are insured for mortality and the insurance company may require a complete postmortem examination be conducted. Requirements for the level of detail (ie, gross or histologic examination) vary widely by company and policy type; in the case of highly valued horses it may be necessary that examination be done by a certified veterinary pathologist. The responsibility of communicating with the insurance company, and therefore the decision, is ultimately borne by the owner; however, the benefits and weaknesses of a field or laboratory postmortem examination may not be completely understood by the client and it is therefore important for the veterinarian to understand the expectations of the owner and insurance agency before making a decision. Similarly, in cases where foul play or other illegal actions may have been involved, it is beneficial to have the necropsy performed by specialists who are familiar with such case investigations. Finally, in cases where it is challenging to dispose of an equine carcass safely on site or in the local area, transport of the animal to the laboratory may be necessary.

Safety Considerations

Before conducting a necropsy, consideration must be given to safety of all parties involved. Although it is possible for a single veterinarian to perform a complete postmortem examination, the assistance of another person minimizes physical exertion and the duration of the procedure. It is advisable, however, to keep the number of people actually assisting in the procedure to a minimum to prevent accidents or lesions being missed by the veterinarian. Proper equipment is required for safety because dull knives are more likely to slip and cause accidental harm. Although zoonotic diseases are relatively uncommon in horses in North America, before initiating a postmortem examination consideration must be given to any potential public health risks associated with the necropsy.

It is important to pick a site for the necropsy that is practical and minimizes any biosecurity risks associated with the procedure. In general, it is easiest to perform the necropsy in a location that can be easily accessed by the equipment needed to collect or dispose of the remains and where access to scavengers can be restricted. A surface that can be cleaned and disinfected, such as a concrete pad, is preferable to grass or dirt.

Equipment

Having the appropriate equipment prepared and readily accessible makes it physically and logistically easier to perform necropsies in the field. Basic necropsy equipment is listed in **Box 1** and is outlined with ordering information by Mason and Madden.³

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