

Justification for Category E

4) Explain the Procedures

Treponeme-associated hoof disease (TAHD) causes lesions on the feet of affected elk. In naturally affected free-ranging elk, usually one or two feet are affected which leads to lameness and chronic debilitation often followed by death.

The objective of this study was to determine if TAHD could be transmitted to apparently healthy captive elk through exposure to TAHD-affected hooves mixed in soil. A secondary objective was to document lesion progression. Development (or lack of development) of hoof lesions from TAHD is the key outcome measure and is essential to the research. Four of the elk in this study exposed to the TAHD-affected hooves developed lesions and demonstrated some degree of lameness associated with the lesions. Analgesia was not immediately provided when signs of lameness first appeared to minimize interference with lesion progression. The animal's behavior, condition and lameness were scored daily, and analgesia provided as defined in the protocol.

5) Reason(s) why

One of the primary study objectives is to document lesion progression. In this study, we set humane endpoints to avoid the suffering endured by free-ranging elk, while still allowing to learn as much as possible about the disease. Locomotion and attitude were evaluated once daily during the study period. When lameness was first identified animals were observed but analgesia was not immediately provided to minimize interference of the use of anti-inflammatory medication with lesion progression. The animal's behavior, condition and lameness were scored daily, and analgesia provided as defined in the protocol.

In the four elk where signs of pain continued to be observed and the lameness score progressed, an analgesic (Meloxicam) was administered. The drug was administered orally in an apple treat because these are wild-caught elk that are not tame so any handling to administer injectable analgesics would have resulted in more stress and discomfort to the animal. When lesions became more severe (in two elk), oral Meloxicam became less effective in controlling pain. This was the first study of TAHD in captive elk so rather than immediately euthanize elk, we followed the elk for up to two weeks to either give Meloxicam an opportunity to control pain or for lesions to regress. When this did not occur, we humanely euthanized the two elk in accordance with the endpoints established in the IACUC approved protocol.