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Quick action for an injured mouse

People who work with male BALB/c mice know that these animals are prone to fighting. That is exactly what happened in Dr. Holly Stein's aggression study—but it was supposed to happen. Stein had been studying aggression and its prevention in mice for many years and was competent in allowing little more than skin wounds to occur. Today, however, two mice quickly began fighting, and before they could be separated, one of them suffered a significant wound to his eye. Although Stein had treated superficial eye wounds in the past as part of her IACUC-approved protocol, this time the eye was badly proptosed (displaced forward) from the orbit and Stein didn't know what to do. It was a Saturday afternoon. The school's veterinarian could be called in to treat the animal, but Stein was very upset and didn't want the animal to suffer or to euthanize a valuable study animal. Therefore, she anesthetized the mouse with ketamine and xylazine and snipped the few tissues that

were still keeping the eye attached to the mouse's body. She applied direct pressure to the orbit area for about a minute to stop the small amount of blood loss, applied an antibiotic ointment over the ocular skin, breathed deeply, then sat down and cried. Stein really cared about her animals, and she was devastated about what had just occurred.

After a few minutes she composed herself, called the veterinarian and told her what had happened. The veterinarian reassured Stein that she very likely would have given the same treatment to the mouse had she been there but also told Stein that the condition was not life-threatening and that she should have contacted her, the veterinarian, before doing anything.

On Monday, when the IACUC was apprised of the incident, the chairman reviewed Stein's protocol and saw that the anesthetic drugs she had used were approved but for a different purpose. The ocular antibiotic ointment was approved for

minor wounds to the eye. There were two key questions before the IACUC: whether Stein, an experienced researcher, should have known that a proptosed eye was serious but did not represent an immediate life-threatening condition, and whether Stein carried out a procedure without IACUC approval.

The committee struggled with these questions. If Stein truly believed there was an emergency that required immediate intervention, perhaps she should be praised rather than castigated for acting. Alternatively, if she acted recklessly, the IACUC would probably take a very different position. But, as one member commented, it seemed to him that she panicked and did what she truly believed was in the best interest of the animal, even if it was the wrong thing to do. He said, "Do we punish the Good Samaritan?"

How would you proceed with the issues facing this IACUC?

RESPONSE

Compassion is in the eye of the beholder

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To cut, or not to cut? The answer to the question may lie in local policy rather than in federal regulations. Stein's protocol allowed for use of anesthetics, but the scenario did not indicate whether they would be used for surgery or a different procedure. Stein was an experienced researcher, but did she have prior training, experience or expertise in rodent surgery? The *Guide for the Care and Use of Laboratory Animals*¹ recommends that in emergency situations, the appropriate course of action requires veterinary medical judgment but also states that some aspects of

the veterinary care program can be carried out by personnel other than a veterinarian. Does Stein's IACUC have a policy in place that addresses clinical and surgical treatment of animals by non-veterinarians with or without initial veterinary consultation and direction?

Because the approved study involves evaluation of aggression, the protocol should have addressed animal welfare concerns, such as what would be done if an animal became injured. If the protocol did not address this issue, then the IACUC didn't do its job.

Should the IACUC throw the book at her? No. It might hit her in the eye, but more likely, doing so would only encourage her (and maybe her colleagues) to treat problems themselves without notifying the attending veterinarian (AV) or the IACUC.

Stein did, commendably, report the problem. She should be counseled in a

positive way, and the AV should work more closely with her to detail the importance of professional (veterinary) judgment on assessing emergency situations, appropriate timing and techniques for surgical correction of the problem, proper post-operative analgesia and follow-up assessments. If Stein is convinced that the AV is equally concerned about the well-being and welfare of her animals and is present and available to provide timely emergency care, she may be more likely to call the AV in the future to provide professional care for her animals.

1. Institute for Laboratory Animal Research. *Guide for the Care and Use of Laboratory Animals* (National Academies Press, Washington, DC, 2011).

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