Jerald Silverman, DVM, Column Coordinator

Ambiguous wording can lead to unintended responses

The Great Eastern University IACUC used a protocol application form that was designed to be as clear and succinct as possible. The goal was to make it easy for the investigator and the IACUC to complete and review the form. However, as often happens, what is clear to one person is not clear to another.

Dr. Jan Markowski worked with the school's attending veterinarian to develop a cumulative pain and distress table for his mice. The table, which became part of Markowski's protocol submission, was used to assign a numerical value to the common clinical signs that an animal might experience during his study, including weight loss, ruffled fur and a lack of activity. The sum of the numerical values was then to be used to

initiate a predetermined action by the investigator, such as more frequent observations, a veterinary consultation or euthanizing the animal. Markowski, wanting to be thorough, wrote on his protocol that a mouse experiencing any of the clinical conditions noted in the table would be euthanized. The protocol was approved by the IACUC without any changes being requested.

About six months into the study, a veterinary technician noticed that a few mice were inactive and huddled in the corner of the cage. The technician notified Markowski and requested that he euthanize the mice, as per his approved protocol. Markowski replied that the technician was misinterpreting his protocol and that euthanasia was required only when the

numerical sum of the clinical signs reached the total shown on his protocol. The technician responded that the protocol said that a mouse exhibiting any of the clinical signs, such as a lack of activity, would be euthanized. Eventually the protocol question was referred back to the IACUC for a decision.

Here we have an example of two well-meaning people with different interpretations of a part of an IACUC-approved protocol. The protocol reviewers did not notice the inconsistency in the wording of Markowski's application and the protocol was approved. Now that the IACUC must make a decision on the fate of the animals, how should the committee proceed? How might a problem such as this be prevented in the future?

RESPONSE

It's all in the table

Sally Thompson-Iritani, DVM/PhD,
Aubrey Schoenleben, PhD &
Emily W. Clark, PhD

In our opinion, the Great Eastern University IACUC should defer to the cumulative pain and distress table that was approved in Markowski's protocol. Despite inconsistencies in the wording of the protocol, we feel that Markowski's intentions were clear that the study's endpoint should not be determined by any single criterion but by the assessment of an animal's cumulative experience over the course of the study. As recommended in the *Guide for the Care and Use of Laboratory Animals*¹, Markowski consulted the school's attending veterinarian while preparing his submission to the IACUC. Together they developed a monitoring plan and endpoint criteria that were both humane and scientifically appropriate for his study. Only in a last minute effort to be thorough did

Markowski introduce language into the protocol that obscured the intent of how these carefully considered criteria should be implemented. With this in mind, we would recommend that the IACUC first appoint a veterinarian to evaluate and score the animals in question, then initiate the appropriate action according to the cumulative pain and distress table. Additionally, Markowski should work with the IACUC to amend the protocol and prevent further confusion by ensuring that endpoint criteria are described accurately and consistently throughout the document.

We feel that more open communication between Markowski and the animal care staff (e.g., the veterinary and husbandry staff) could have prevented this mishap. The actions of the veterinary technician in this situation were commendable. However, additional training and discussion before the start of the study and concerning the study's unique endpoint criteria would help to ensure that all personnel interpret the protocol as it was intended. This would also provide an opportunity to clarify any potential points of confusion.

Great Eastern University could also consider implementing a pre-review step in its IACUC review process or a protocol review component in its post-approval monitoring program to help identify and resolve inconsistent wording in future protocols.

1. Institute for Laboratory Animal Research. *Guide for the Care and Use of Laboratory Animals* 8th edn. (National Academies Press, Washington, DC, 2011).

Thompson-Iritani is Director, Schoenleben is a Scientific Liaison and Clark is a Scientific Reviewer of the Office of Animal Welfare, University of Washington, Seattle, WA.

RESPONSE

Shared responsibility for identifying discrepancies

Erin Hutteman, BS, LVT, RLATG, CPIA &
Julian Castaneda, PhD, DVM, DACLAM

Principle VI of the *US Government Principles for the Utilization and Care of Vertebrate*