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Euthanasia by Cervical Dislocation: When Is It Justified?

At times, investigators ask an IACUC for permission to perform either cervical dislocation or decapitation without using sedating or anesthetic drugs that might compromise ongoing research. The Great Eastern University IACUC's *modus operandi* for such a request, which it believed to be compliant with federal regulations and the 2000 AVMA Panel on Euthanasia recommendations, was to request that an investigator justify why he or she could not use other means of euthanasia and also to request assurance that the person who would perform the procedure is adequately trained to do so.

As part of his protocol's initial review, the IACUC asked Dr. Greg Glancey, a new investigator at Great Eastern, to provide additional explanations for his cervical dislocation request. The Committee felt that what he wrote was just too weak, and it asked that he specifically justify the need for cervical dislocation and explain why the use of anesthetics or sedatives as part of a euthanasia regimen would compromise his data. He noted in his response that cervical dislocation without drugs was requested because it is well established that anesthetics can interfere with the neuronal ion channels he studied, and that his technician was experienced with the cervical dislocation technique. The IACUC Coordinator sent the revised protocol to the two Designated Members who had previously (and properly) been selected to review the revised document. The reviewers had differing opinions. One felt that the explanation was appropriate even if it wasn't what the IACUC usually saw. The other wanted Glancey to provide the same information that other investigators routinely submitted, that is, one or more references that documented the interference of common euthanasia drugs with his research

and more specific information about the technician's proficiency with cervical dislocation. They could not reach an agreement. The IACUC Chair, after giving up trying to mediate a compromise between the two reviewers, looked skyward and asked, "Why do these dumb problems always come up just before my grant deadlines?" He knew he was going to have problems with Glancey and his own reviewers, and he wasn't happy about waiting almost a month to settle the issue by means of a full-Committee review.

Did Glancey's explanation provide an adequate justification for the use of cervical dislocation and the skills of his technician, or was the request for additional information appropriate?

Where's the Justification?

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The prescriptive document for this subject is the 2000 Report of the AVMA Panel on Euthanasia¹. The Public Health Service's *Policy on Humane Care and Use of Laboratory Animals* directs the IACUC to follow the AVMA guidelines "unless a deviation is justified for scientific reasons in writing by the investigator²." The AVMA panel approved cervical dislocation as the sole means of euthanasia only when scientifically justified by the user and after "demonstrated technical competency¹."

During the full-Committee review, a majority of the members could not agree that the issue of cervical dislocation without anesthesia was completely justified. As such, the Committee agreed that Glancey should provide additional written justification for using cervical dislocation. The sce-

nario tells us that a more complete justification is in keeping with the institution's standard practice. It seems that Glancey has not provided any additional information apart from his personal assurance that the justification is "well established" in his field of study. For unspecified reasons, the one reviewer is still against approval, despite the declaration and the urging of the other reviewer and the IACUC Chair. If the issue is so well known, it should be a simple task for Glancey to provide the justification requested and end the matter without further argument. In addition to the justification requested, the Attending Veterinarian (AV) should assure demonstrated competency upon viewing the first few euthanasia procedures in the study.

There is ample reason to document the need for cervical dislocation without anesthesia. Because the use of cervical dislocation seems to be controversial, it is important that each use have clear and undeniable justification. Outside, interested parties with little knowledge of science in general, let alone the specific field of study, may not see the need without a clear explanation. In the future, other Committee members not present during the original discussions may have to examine the protocol, and they would need to know the reasoning of the original Committee. Last of all, it may become evident that what was "firmly established" for scientific reasons may merely be done through custom and long-established use. There may, in fact, be a better way.

It is of interest in this case that, in a survey of 21 IACUCs, 20 specified "that the justification for cervical dislocation and decapitation must include an explanation of the manner in which the investigator believes a sedative or anesthetic could interfere with the experiment³." Regarding