

categorized as D experienced pain due to insufficient analgesia, but the protocol did not prohibit analgesia.

Identification of an appropriate category for the above scenario seems to be subjective, and no subcategories (e.g., D-2) exist; therefore, we should revisit the intent of categorization<sup>6</sup>. Functionally, the USDA and, by extension, the public are interested in knowing how many animals actually experienced pain<sup>5</sup>. With this objective in mind, we can define Category D as animals that were given analgesia, anesthesia or other pain-relieving treatments such that they remained reasonably comfortable. Category E animals, then, predictably or unexpectedly experienced unalleviated pain of substantial duration and/or severity. Staff entrusted with monitoring research animals should be able to accurately recognize and assess their pain<sup>7</sup>. In this protocol, it is assumed that the technicians were adept at recognizing signs and severity of animal pain and that their judgment was that the level of pain was high enough to warrant contacting the veterinarian. Therefore, if Hendricks' guinea pigs had been given additional analgesia within a reasonable amount of time (as determined by their IACUC) after the signs of pain were observed and their pain had been minimized to allow for reasonably comfortable recovery, all of the animals in the protocol should be categorized as D<sup>4</sup>. If some of the animals experienced substantial pain for an extended period of time before receiving analgesic relief (as recorded during post-surgical monitoring), however, then the IACUC has a defensible position in re-classifying those animals as Category E<sup>4</sup>. Covelli should explain to Hendricks that retrospective category adjustments are ultimately beneficial, as they show that his lab, the veterinary staff and the IACUC were carrying out comprehensive animal monitoring while providing objective assessments for areas of improvement, such as enhanced analgesic protocols or retraining regarding postoperative monitoring and communication with veterinary staff.

1. Animal Welfare Regulations. 9 CFR, Chapter 1, Subchapter A, Part 2, Subpart C, Section 2.31(e), 2.36,b, 5-2.35,b, 7.  
 2. Public Health Service. *Policy on Humane Care and Use of Laboratory Animals* (US Department of Health and Human Services, Washington, DC, 1986; amended 2002).

3. US Department of Agriculture. *Animal Care Resource Guide*. Policy #11. (US Department of Agriculture, Washington, DC, 1997). <[http://www.aphis.usda.gov/animal\\_welfare/downloads/policy/policy11.pdf](http://www.aphis.usda.gov/animal_welfare/downloads/policy/policy11.pdf)>
4. Karas, A. & Silverman, J. Pain and distress. in *The IACUC Handbook* 2nd edn. (Silverman, J., Suckow, M.A. & Murthy, S., eds.) (CRC Press, Boca Raton, FL, 2007).
5. DeHaven, R.W. Panel discussion with all speakers. in *Definition of Pain and Distress and Reporting Requirements for Laboratory Animals: Proceedings of the Workshop Held June 22, 2000*. 96 (Institute for Laboratory Animal Research, National Academies Press, Washington, DC, 2000).
6. Karas, A. Pain and distress caused by experimental procedures—is it time for a reality check? in *Definition of Pain and Distress and Reporting Requirements for Laboratory Animals: Proceedings of the Workshop Held June 22, 2000*. 39 (Institute for Laboratory Animal Research, National Academies Press, Washington, DC, 2000).
7. National Research Council. *Recognition and Alleviation of Pain in Laboratory Animals* 51 (Institute for Laboratory Animal Research, National Academies Press, Washington, DC, 2009).

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## RESPONSE

### To 'E' or not to 'E'

**Frank N. Ali, MBA, CMAR, RLATG & Robert E. Faith, DVM, PhD, DACLAM**

In reviewing the scenario, we believe the following conclusions and observations can be made. First, Hendricks' protocol was approved as Category D by the IACUC. Second, Hendricks claims that he followed every detail of his protocol, including administering anesthesia and analgesia with the proper dosages as prescribed by the attending veterinarian. Third, the technicians in his laboratory (which have been properly trained) carried out the procedure and administered postoperative analgesics as described in the protocol with proper dosages. All observations were documented, but the technicians did not promptly notify the veterinarian that the analgesic did not fully alleviate the animals' postoperative pain.

The concern here is that if the technicians were properly trained, they should have notified the veterinarian immediately that the animals were experiencing postoperative pain. The fact that they did not suggests that there may be a lack of training.

The veterinarian responded by administering additional analgesic and instructing Hendricks to alert the IACUC that the postoperative analgesic dose for the guinea pigs needed to be increased on all future surgeries. The protocol should be amended to reflect the correct dosage.

The fact remains that the animals were in pain for a period of time. The incident needs to be documented to the IACUC as a reportable incident. The investigator should report what happened, the initial actions taken by the technicians, the reasons that the technicians did not alert the veterinarian immediately if they thought the guinea pigs were in pain and the actions taken by the attending veterinarian. Documentation that the additional dosage of postoperative analgesia alleviates the animals' pain should be provided to the IACUC. Whether the incident is reportable to OLAW should be decided by the IACUC, on the basis of the duration and severity of the animals' pain.

Training should be given to the technicians regarding appropriate post-surgical care for guinea pigs, particularly on recognition of the severity of post-surgical pain and immediate notification to the attending veterinarian. Documentation should also be provided that the proper amount of analgesic was given in future surgeries and that there were no further incidents of pain in the guinea pigs.

Hendricks has a valid point. The decision of the IACUC should be that the guinea pigs remain in Category D with a documented incident of inadequate dosage of post-surgical analgesic and a mandatory retraining of the technicians.

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## RESPONSE

### Show me the regulation

**Rhett W. Stout, DVM, PhD, DACLAM**

We can all sympathize with Hendricks. Often we follow a set of instructions to the 'T' but still feel that we end up with egg on our face. In my opinion, the system worked and could only be improved by providing more training on the recognition of pain and appropriate responses. Although I have no doubt that