A Question of Sacrifice

Author(s)

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Description

A scenario about research that requires one to sacrifice animals without anesthetics or analgesics.

Body

Eric Rosenthal is a second year graduate student in a neurosciences program. Having just completed his course work, he must design his own project of research. His special area of interest is in studying the effects of methamphetamine and related compounds on brain activity. These compounds are commonly abused as recreational drugs and, although many are illegal, new "designer drugs" or slightly different chemical variations, are developed on a regular basis by illicit drug manufacturers.

One of his first considerations in designing his project is to find an appropriate animal model. In his review of the literature, Eric finds that cats are an adequate model because their brains are physiologically and anatomically similar to those of humans. Rhesus monkeys, however, have brains even closer to those of humans with more complex patterns of brain wave activity. His protocol would entail restraining the animal, hooking up electrodes, measuring brain activity both before

and after administration of the drug, then sacrificing the animal to examine any physiological and anatomical changes in the brain tissue.

Eric is concerned that any sedatives, anesthetics, or analgesics administered before sacrificing the animal could possibly alter the brain chemistry and consequently Eric's results. Yet, as a humane and compassionate person, he is concerned that the animals not experience any unnecessary pain or suffering.

Eric wishes to use the best model for his experiment, but hesitates to do so in this instance for a number of reasons. First, rhesus monkeys are much more expensive and less available than cats.* Second, Eric feels a certain "kinship" toward primates that he does not feel towards cats. Are either of these issues appropriate considerations in selecting his animal model?

The initial phase of the study, restraint and brain wave monitoring is not painful for the animal, though the animal will generally resist the limitations on its physical movement. Nonetheless, Eric believes that not providing any pain-reducing substances at this point is entirely appropriate. He is less certain when it comes to sacrificing the animal. Are there humane ways to sacrifice the animal without providing anesthetics or analgesics? How might Eric deal with this issue?

Assume that for purposes of Eric's study, it is not necessary to sacrifice the animal in the end. The protocol, which then only entails restraint and attachment of electrodes and administration of the drug under study, is rather noninvasive. Is it appropriate to use the animals (either cats or monkeys) for other, unrelated experimental procedures afterward? What if the initial experiment involved a surgery from which the animal would survive? Should the availability or species of the animal weigh in this decision?

Notes

Caroline Whitbeck introduced methods and modules for discussing numerous issues in responsible conduct of research at a Sigma Xi Forum in 2000. Partial funding for the development of this material came from an NIH grant.

You can find the entire sequence on the OEC at Scenarios for Ethics Modules in the Responsible Conduct of Research. Some information in these historical modules may be out-of-date; for instance, there may be a new edition of the professional

society's code that is referred to in an item. If you have suggestions for updates, please contact the OEC.

*** This scenario was adapted from one given by the AAMC.**

Contributor(s)

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Resource Type

Open-ended scenario

Parent Collection

Scenarios for Ethics Modules in the Responsible Conduct of Research

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Animal Use
Research and Practice

Discipline(s)

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