

Word for Word

The Final Word on sacrificed, Killed, or Euthanized

The humane treatment of laboratory animals is a legal and moral obligation and includes minimizing their pain and distress when they reach study endpoints. Choosing how to describe the killing of research animals in scientific publications can be complicated by the history, multiple meanings, or common usage of a word; by the need for clarity and concision; and by the expectations of audiences.

The use of the word *sacrifice* to describe the killing of lab animals began in the early 20th century. In historic usage, a *sacrifice* is a religious offering to a deity or, by extension, the act of “surrendering something valuable for a greater good.”¹ Thus, the use of *sacrificed* in biomedical research could be seen as a metaphor in which laboratory animals serve as offerings to the greater good of improving human health. Although scientific writing should ideally eschew the use of metaphors, *sacrifice* has come into widespread usage in the scientific literature. In fact, Merriam-Webster gives “to kill (an animal) as part of a scientific experiment” as one of the definitions of *sacrifice*,² and our recent search of PubMed for the term *sacrificed* retrieved over 50,000 results.

However, the *AMA Manual of Style* recommends that authors use the more direct term *killed* rather than *sacrificed* because *sacrificed* is a euphemism—a way of softening the expression of something unpleasant.³ For the same reason, the *AMA Manual* prefers the wording *the patient died* over the wording *the patient passed away*.

The professional and governmental bodies that oversee the welfare of research animals in the United States mostly use the term *euthanized*. AAALAC International, the organization that accredits research animal facilities, defines *euthanasia* as “the act of humanely killing animals by methods that induce rapid unconsciousness and death without pain or distress.”⁴ The [Office of Laboratory Animal Welfare](#) of the National Institutes of Health, the guidelines of the [American Veterinary Medical Association](#), and the [ARRIVE guidelines](#) also use the terms *euthanasia* and *euthanized*.

In short, *sacrificed*, *killed*, and *euthanized* are all acceptable ways to describe the humane killing of lab animals. Authors should, however, consider their audience when they choose one of these terms. For broad audiences that may include nonscientists, *humanely killed* or *euthanized* may be preferable, as these audiences may not be familiar with the scientific usage of *sacrificed*.

References:

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4. National Research Council. *Guide for the Care and Use of Laboratory Animals*. 8th ed. National Academies Press; 2011:123. <https://doi.org/10.17226/12910>

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