

Clemson University
Institutional Animal Care and Use Committee (IACUC)

Policy Number: 2.4

Policy Title: Literature Searches

Section 1: Purpose

The following policy was developed to provide clarification on which Animal Use Protocols (AUP) or amendments to approved AUPs require literature searches and to describe an adequate literature search.

Section 2: Scope

This policy applies to all AUPs and amendments to approved AUPs. Refer to policy 2.1 for guidance on which activities require an AUP.

Section 3: Policy

I. Literature Search Description

Both the Public Health Service Policy and the Animal Welfare Act require the examination of alternative models and alternative methods to potentially painful procedures. Alternatives are generally described as approaches or methods that incorporate some aspect of the replacement, reduction, or refinement (3Rs) of animal use with the goal of the minimization of animal pain and distress. These include methods that use non-animal systems or less sentient animal species to partially or fully replace animals. Although a literature search is not the only way to investigate alternatives, they are regarded as the most effective method.

To be considered adequate, a literature search must have been conducted within **6 months** prior to protocol submission and the documentation of the search must, at a minimum, contain the following elements:

Database Name	Name each individual database searched. Consult the IACUC LibGuide for guidance on which databases to search. At least 2 databases need to be consulted.	Example: PubMed, Web of Science, Scopus *Note: PubMed, Medline, PMC, and NCBI are considered to be three different ways to search the same set of literature. For your search, you would need to only search one of these in addition to another database. *Note: Google Scholar is not considered a scholarly database
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(Formerly Policy #7)

		and is a search engine. It is not appropriate to search when looking for animal alternatives.
Date of Search	Provide the date you conducted the search	Example: January 1, 2024
Period Covered by Search	Provide a range of years or months to indicate what time period of literature you consulted when conducting your search. This may be different from the date you conducted the search. Our policy requires you to search for literature published in the past ten years .	Example: 2014-2024
Search Terms	Search terms included should be relevant to the type of procedure that could cause pain or distress and the animal model you are using. You should also include keywords for the 3Rs terms: Reduction, Refinement, and Replacement.	For example terms see the IACUC LibGuide .
Search Strategy	This should include all the terms you used and how you combined them using Boolean Operators.	Example: mice AND pain AND anesthesia For more examples see the IACUC LibGuide

The IACUC highly recommends working with a subject librarian for assistance with literature searches. See the [IACUC LibGuide](#) to find their contact information and learn about library resources to use in your search.

II. When is a Literature Search Required?

Literature search requirements are based on the USDA pain category of the activity described in the AUP or amendment. The pain category is determined and assigned by the University Veterinarian. A brief description of the pain categories is below:

- Category B – Animals are only used for breeding or production.
- Category C – Animals are used in activities involving no pain and/or distress and no pain-relieving drugs are used.
- Category D – Animals used in activities involving accompanying pain and/or distress for which appropriate anesthetic, analgesic, or tranquilizing drugs are used.
- Category E – Animals used in activities involving accompanying pain and/or distress for which the use of appropriate anesthetic, analgesic, or tranquilizing drugs are NOT used.

a. New Animal Use Protocols

- i. Category B and C AUPs – A literature search is not required.
- ii. Category D and E AUPs – A current literature search is required.

b. Significant Changes to an Animal Use Protocol

If an activity proposed in an amendment to an approved AUP changes the pain category of an AUP to a D or E, a literature search is required and must be conducted within 6 months prior to the submission of the amendment.

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c. Minor or Veterinary Verification and Certification (VVC) Changes to an Animal Use Protocol

Minor or VVC changes to an approved AUP should not result in a higher pain category and do not require a literature search.