



## A GUIDE TO LITERATURE SEARCHES AS REQUIRED BY THE ANIMAL WELFARE COMMITTEE (IACUC)

The Animal Welfare Act (AWA) requires that investigators provide the Institutional Animal Care and Use Committee (IACUC) with documentation demonstrating that:

1. alternatives to procedures that may cause more than momentary pain or distress to the animals have been considered  
and
2. activities do not unnecessarily duplicate previous experiments.

### 1. Searching for alternatives to painful and/or distressful procedures

A comprehensive search is an accepted method for demonstrating to the IACUC that the investigator has considered alternatives to painful/distressful procedures. An alternative is any procedure which results in the reduction in the numbers of animals used, refinement of techniques, or replacement of animals.

Before you begin your search, consider your objectives and endpoints. Think about the procedures that will be performed and pay particular attention to those procedures that may cause more than momentary pain or distress.

#### How to document your literature search

Your search must include keywords relating not only to the type of procedure, but also to the aspects of the procedure that will cause pain or distress.

*For example:*

Your research requires that you perfuse the liver for metabolic studies. The painful aspect of this procedure is the incision to expose the liver. Therefore, the keywords that should be used in your search for alternatives should include the name of the procedure (perfusion), the species (e.g. rat), the painful aspect (i.e. laparotomy), and also use "Animal Testing Alternatives"

- The Lifespan IACUC requires that investigators search two distinct databases. It is important to note that Ovid is a vendor which owns databases, Medline is one of them. Other search engines are Yahoo, Google, and HOTBOT. It is important to note that MEDLINE (PubMed – <http://www.pubmed.gov>) is also one of the databases available in OVID and MDConsult, therefore you can use only one of these along with another acceptable database, such as Agricola – <http://agricola.nal.usda.gov>; Canary Database, Web of Science, Biological Abstract, Toxline – <http://toxnet.nlm.nih.gov>.
- When reporting the results of your literature search to the IACUC, you must include the specific years that were searched. It is not acceptable to reference "all available", or "1972 to present". (In OVID "To present time is specifically defined, i.e. "October week 2")

Documentation describing your search for alternatives to painful/distressful procedures is included in Section 7 of the Animal Care and Use Protocol form (ACUP). For the example described above, the completed description will be:

Procedure 1: *laparotomy for perfusion*  
Databases searched *Agricola + OVID*  
Keywords used: *perfusion, laparotomy, rat, alternative*  
Years searched: *.1976-2006*  
Date search was performed: *8/1/2006*

NOTE: If the IACUC requests that you expand your search to include additional keywords, it is expected that you will complete a new search. Therefore, the details of the search that are reported on the Animal Care and Use Protocol (ACUP) form would need to be updated and a new signature would be required from the Principal Investigator.

### **Helpful links to other resources for completing a literature search for alternatives**

<http://www.nal.usda.gov/awic/alternatives/tips.htm>

<http://www.frame.org.uk/Searching%20for%20Information/Search%20Guide%20Index.htm>

[http://www.vetmed.ucdavis.edu/Animal\\_Alternatives/worksheet2.html](http://www.vetmed.ucdavis.edu/Animal_Alternatives/worksheet2.html)

[http://riley.nal.usda.gov/nal\\_display/index.php?tax\\_level=1&info\\_center=3&tax\\_subject=184](http://riley.nal.usda.gov/nal_display/index.php?tax_level=1&info_center=3&tax_subject=184)

[http://riley.nal.usda.gov/nal\\_display/index.php?info\\_center=3&tax\\_level=1&tax\\_subject=183](http://riley.nal.usda.gov/nal_display/index.php?info_center=3&tax_level=1&tax_subject=183)

## **2. Searching in order to assure the IACUC that the proposed activities do not unnecessarily duplicate previous experiments**

The Animal Welfare Act (AWA) requires that “the principal investigator has provided written assurance that the activities do not unnecessarily duplicate previous experiments.” As part of its ethical deliberations, the IACUC must determine that the number of animals proposed is justified, and that the work will contribute valuable knowledge to the scientific community.

A comprehensive search is an accepted method for demonstrating to the IACUC that the investigator has reviewed the literature and can provide an assurance that the proposed work is not unnecessarily duplicative of other work.

### **How to document your literature search**

The Assurance is located at the end of the Animal Care and Use Protocol (ACUP) form, before the Appendices. The Principal Investigator and the Principal Researcher must sign the Assurance page to verify compliance with all applicable rules and regulations. The Assurance page must also include a statement that the work is not unnecessarily duplicative, and must be accompanied by a description of the literature search that was performed.

NOTE: The search which is included in the Assurance is entirely different from the Search for Alternatives. The keywords used in the search to assure non-duplication must relate to the scientific model under study. It is not appropriate to use the same keywords from the Search for Alternatives to painful/distressful procedures because procedure related keywords are not likely to yield information regarding whether the scientific question has already been answered by previous work.

*For example:*

Your research proposes to study the role of specific joint changes following injury that lead to the development of osteoarthritis. The studies will include rodent survival surgery to initiate the injury. Your Assurance that the work is not duplicative would include details of a search including keywords related to the specific changes that are to be observed, osteoarthritis, and perhaps injury, or trauma. The keywords would not include keywords relating to the specific surgical procedure used to induce the injury.

The IACUC Coordinator (444-2093), Attending Veterinarian (444-6842), and IACUC Chair (444-5540) are available if you have any questions about these requirements.