



Search Evaluation

The PI Role

- Check your terminology, search strategy, sources, and the dates of search
- Review the search before completing the protocol
- Assess and evaluate the alternative possibilities
- Be prepared to support the use or non-use of any alternatives in writing
- Keep a copy of your search strategy, databases searched, and years of search for future use

The IACUC Role

- Assess the appropriateness of search topics
- Assess the thoroughness of the search

Red Flags

- Only 1 database searched
- Terms only for painful aspects
- The term “alternative” used alone with no other alternative terms
- Keywords listed are not relevant to protocol
- Keywords and concepts linked in an incorrect manner
- Search doesn't cover an adequate time period (5-10 years)

Contact Information

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Searching for Animal Alternatives*

This guide offers tips for searching the literature for alternatives to using animals in research and teaching. Librarians are available to assist researchers in developing search strategies and using databases available through The Ohio State University Libraries.

Alternatives

The 3 R's of Russell and Burch

The Principles of Humane Experimental Technique (1959)

Reduction - Minimize the number of animals used.

Refinement - Find techniques to reduce pain and distress.

Replacement - Substitute animal with non animal methods or lower level organisms.

Searching for Alternatives: A Two Phase Search Strategy

- Phase I: Reduction and refinement - citations pertinent to PI's field of study.
- Phase II: Replacement-use of non animal or alternative animal models.

AWIC Tips for Searching for Alternatives

1. Analyze the protocol to determine where alternatives might be used and for terminology. Consider the:

- Description of the protocol and area of study
- Species being used
- Organ systems involved
- Acronyms (BSE, CNS, MAb)
- Spelling variants (leukemia, leukaemia)

*The information in this brochure is based on the information provided at the workshop "Meeting the Information Requirements of the Animal Welfare Act" conducted by the Animal Welfare Information Center of the National Agriculture Library, US Department of Agriculture.

- Names of hormones, enzymes, CAS#, trade names, etc.
- Prominent authors in the field, including work published by the investigator.
- How is the proposed study unique?
- Any previous searches conducted and keywords used.

2. Decide which databases and websites to use to look for the information.

3. Link terminology appropriately for best search results.

4. Evaluate the search results.

Searching for Alternatives: Alternative Terms

Place a truncation symbol where the () are. For example, the truncation symbol for PubMed and Web of Science is an asterisk (*). For OhioLINK databases, the truncation symbol is a dollar sign (\$).

Reduction and Refinement

- | | |
|---|---|
| <ul style="list-style-type: none"> ▪ advers() ▪ analges() ▪ aneshe(), anashe(), anaeshe() ▪ anxiolytic ▪ environment(), enrich() ▪ handl(), hous(), cag() ▪ monitor(), device() ▪ pain(), distress(), stress(), welfare | <ul style="list-style-type: none"> ▪ positive reinforce() ▪ reduc(), refin() ▪ restrain(), restrict(), immobil() ▪ technique(), method(), procedur(), assay() ▪ train(), educat(), teach(), instruct() ▪ tranquiliz() |
|---|---|

Replacment

- | | |
|--|---|
| <ul style="list-style-type: none"> ▪ alternative() ▪ animal testing alternative() ▪ assay(), technique(), method() ▪ bacter() ▪ cadaver() ▪ culture() (cell tissue, organ) ▪ fish(), cephalopod() ▪ handl(), hous(), cag() ▪ invertebrate() ▪ isolated (cell, tissue, organ) | <ul style="list-style-type: none"> ▪ mannequin() or manikin() ▪ model() ▪ replac() ▪ simulat() ▪ software, computer() ▪ train(), educat(), teach(), instruct() ▪ video() ▪ virtual (surgery, reality) ▪ vitro (method, model, technique) |
|--|---|

Databases

Biomedical and Biological

- | | |
|--|--|
| <ul style="list-style-type: none"> ▪ AGRICOLA ▪ Aquatic Sciences & Fisheries Abstracts (ASFA)* ▪ BIOSIS Previews ▪ CAB Abstracts ▪ EMBASE* ▪ Pascal* | <ul style="list-style-type: none"> ▪ PsychINFO ▪ PubMed ▪ Science Citation Index/Web of Science ▪ TOXLINE ▪ Zoological Record |
|--|--|

Pharmaceutical and Techological

- | | |
|--|--|
| <ul style="list-style-type: none"> ▪ Compendex ▪ Gale Group Computer Database* ▪ INSPEC ▪ International Pharmaceutical Abstracts | <ul style="list-style-type: none"> ▪ Japanese Science and Technology* ▪ NTIS ▪ Pharmaceutical News Index* |
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*Contact a Librarian to search this database.

Additional Databases and Websites

Altweb <http://altweb.jhsph.edu/>
 Animal Welfare Information Center (AWIC) <http://www.nal.usda.gov/awic/>
 CRIS <http://cris.csrees.usda.gov>
 CRISP <http://crisp.cit.nih.gov>
 Defense Technical Information Center (DTIC) <http://www.dtic.mil/>
 DoD Biomedical Research Database <http://www.scitechweb.com/acau/brd/>
 Norwegian Reference Centre for Alternatives <http://oslovet.veths.no/databasesintro.html>
 PrimateLit <http://primatelit.library.wisc.edu/>
 Fund for the Replacement of Animals in Medical Experiments <http://www.frame.org.uk>
 Johns Hopkins Center for Alternatives to Animal Testing (CAAT) <http://caat.jhsph.edu/>