

GUIDELINES ON PERFORMING A LITERATURE SEARCH FOR ALTERNATIVES

PURPOSE:

The requirement to perform a literature search for alternatives is based on the concept of the three R's. The three R's are **reduction** (in the number of animals used), **refinement** (of techniques and procedures to reduce pain or distress), and **replacement** (of animals with non-animal techniques, lesser species, or computer modeling). This document serves to outline a strategy for performing research that is consistent with the three R's.

GUIDELINES:

A strategy that has been suggested includes performing the research on alternatives in two separate phases:

- **PHASE 1: CONSIDERATION OF REDUCTION AND REFINEMENT**
 - Look for studies that relate to the following:
 - No unnecessary duplication
 - Appropriate animal numbers
 - Best pain relieving agents (anesthesia and analgesics)
 - Other methods of reducing pain and/or distress
 - Read the materials and methods sections
 - In Phase 1 of the literature search, it is suggested that the word *alternative* not be used, as this can lead to limited results. In certain disciplines, such as toxicology or education, using the term *alternative* would be acceptable due to the high number of cases where alternatives have been previously developed
 - Suggested search terms: analgesic, painkiller, anesthesia, sedative, housing, facility management, caging, welfare, well-being, pain, distress, technique, procedure, method, assay
- **PHASE 2: CONSIDERATION OF REPLACEMENT**
 - Look for studies that relate to the following:
 - Animal and non-animal models as alternatives
 - The word *alternative* is suggested for these searches, as well as the word *model*, as these will help to narrow the search to more applicable studies
 - Suggested search terms: vitro, culture, simulation, artificial, tissue, cell, organ, model, virtual

Suggested databases include (but are not limited to):

- EMBASE
- TOXLINE
- Web of Science
- PubMed
- Zoological Record
- AGRICOLA (USDA)
- PsycINFO