

Policy on the use of Animals in Research

This Policy describes the research use of living vertebrates and cephalopods and their tissues and takes into account guidance from a number of stakeholders who seek assurances from universities of their ethics and welfare governance surrounding animal studies.

Other Policies will cover the use of animals in education and invertebrate animals.

1. Background

- 1.1 The University of Liverpool (the University) is committed to excellence in research. The University accepts that in order to pursue this commitment there is sometimes a need to use animals in research. However, it permits the use of animals in research scientific procedures only where there is no viable alternative available.
- 1.2 Where animals are used in research, the University requires the very highest level of ethical conduct and practice. The replacement of animals with model systems where possible, reduction in the number of animals used, and refinement to decrease any harm and discomfort caused to animals ([3Rs](#)), must always be the utmost priority.
- 1.3 All research practices should ensure the highest standards of care and minimisation of animal stress, and animals housed for the purposes of research must be cared for with the best practice in husbandry. Where animals are being observed in their natural habitat, care must be taken not to damage their environment or cause harm to other species.
- 1.4 Where applicable, official licences must be obtained from the appropriate governing body of the country in which the research will be undertaken (including the UK). Licences should be obtained prior to commencement of any studies.
- 1.5 The University does not approve research projects conducted abroad with the purpose of knowingly undertaking work with lower ethical and welfare standards than those that would be applicable in the UK.

2. Purpose

- 2.1 This policy sets out the principles upon which all animal research involving vertebrates and cephalopods and their tissues can be conducted and lays out the animal welfare and ethical review requirement.
- 2.2 This policy applies to all staff, students and persons undertaking research under the governance of the University of Liverpool. This policy also applies to work carried out by external companies, or collaborators, using University facilities.

3. Categories of research involving animals covered by this Policy

- 3.1 For the purposes of this policy, the types of animal research are divided into the following categories:
 - A. The use of living vertebrates and cephalopods in scientific procedures within the University and the UK which are regulated by the [Animals \(Scientific Procedures\) Act 1986 \(ASPA\)](#).

- B. The use of living vertebrates and cephalopods in scientific procedures being conducted outside the UK that would fall under the definitions of ASPA if conducted in the UK.
- C. The use of tissue, in research, harvested from vertebrates and cephalopods that have been bred or killed solely for the purposes of research regardless of where the animals or tissue was sourced. This will also include animals or other protected animals (under ASPA) that have died of natural or accidental causes.
- D. The use of vertebrates and cephalopods or their tissues that are not covered under A – C above, or if the research does not involve the animal in scientific procedures (for example, behavioural and / or observational work).
- E. Investigations of Clinical Veterinary Research or Routine Agricultural Practices (as defined by the [Royal College of Veterinary Surgeons](#)). These typically involve owned animals that were originally bred for purposes other than research (e.g. pets, farm animals, leisure or racing horses) under study in a clinical or agricultural setting.

4. General principles of ethical conduct when involving animals in research

- 4.1 Use of animals, as listed in categories A – E above, must always be considered via an appropriate ethical review process. Research should be planned with the welfare of the animals in mind, including the protection of the environment in which they live.
- 4.2 As part of ongoing efforts to reduce waste, promote animal alternatives and increase the reproducibility of research and testing, the PREPARE Guidelines should be considered in experimental planning.
- 4.3 The justification for the issuing of a Project Licence (PPL) should be based on the proportionality between the harms (possible animal suffering) and the benefits (the hoped for result of the proposed research).
- 4.4 Anyone involved in the care and handling of animals must be properly trained and fully aware of the legal and ethical issues involved.
- 4.5 Research involving collection of samples at home and overseas must adhere to UK standards and good practice guidelines. This also applies to catching / releasing of any vertebrate or cephalopod.
- 4.6 Research requiring the import and export of animals or their tissue must adhere to good practice and international frameworks (such as the [Nagoya Protocol](#)).
- 4.7 Where appropriate and possible, researchers have an ethical obligation to make their research findings (including negative findings) publicly available.

5. Additional specific principles of ethical conduct for research involving vertebrates and cephalopods in scientific procedures

- 5.1 Research in the UK involving vertebrates and cephalopods subjected to scientific procedures that may cause pain, suffering, distress or lasting harm must comply with the provisions of [ASPA](#).

- 5.2 The University is committed to implementing standards that reflect contemporary best practice, including when these exceed the minimum requirements of legislation and codes of practice. The University expects all those involved in this type of animal research to adhere to the National Centre for Replacement, Refinement and Reduction's (NC3Rs) Guidelines: [Responsibility in the use of animals in bioscience research](#).
- 5.3 The University embraces the principles of Replacement, Refinement and Reduction ([3Rs](#)) in animal research and researchers are expected to explore models that replace, reduce or refine the use of animals in their research and evidence this in any ethical and project licence applications.
- 5.4 Animals must only be used in scientific procedures where no viable alternative to achieve the scientific aims are available. Replacement of animal models must always be the first consideration irrespective of whether the research falls under ASPA.
- 5.5 Where the use of animals is justified, the number of animals used must be reduced to the minimum number that is scientifically viable and appropriate steps must be taken to refine the research so that discomfort to the animals is minimised.
- 5.6 Careful consideration should be given at the project planning and design stage to the fate of the animals at the end of the programme of work (e.g. euthanasia, rehoming, or release). Where an animal is to be killed, tissue and blood products of value to research should be utilised and bio banked with full ethical considerations wherever possible, including sharing with other researchers to reduce use of animals in the future.
- 5.7 The reporting of research involving animals in scientific procedures should conform to the [ARRIVE guidelines](#) set out by the NC3Rs.

6. Roles and responsibilities under ASPA

- 6.1 The named person responsible for compliance (NPRC) at the University of Liverpool is responsible for compliance with ASPA. They are required, amongst other things, to have an ethical review process in place to advise them on ethical aspects of the work, animal welfare, the training and competency of individuals involved in animal research and the suitability of support staff and facilities. The ethical review process complies with the ASPA requirement that the relevant Named Animal Care and Welfare Officer (NACWO) and the Named Veterinary Surgeon (NVS) are involved.
- 6.2 The NPRC sits on the University's AWERB, which reports to Research Integrity and Governance Committee (RIGC). The Research Integrity and Governance Committee reports to the Senate and to the Council and provides assurances on the ethical use of animals in research and compliance with ASPA and other legislation that govern the use of animals in research.
- 6.3 The relevant Named Animal Care and Welfare Officer (NACWO) ensures that the requirements of ASPA are met, and the highest standards of animal husbandry are implemented and makes recommendations to the AWERB about individual projects.
- 6.4 The Named Veterinary Surgeon (NVS) ensures the health of protected animals under ASPA, to approve the anaesthesia and analgesia regimes proposed in all projects, to authorise the use of any prescription drugs and make recommendations to AWERB about individual projects.

- 6.5 The Named Information Officer (NIO) is responsible for ensuring that those dealing with animals in the establishment have access to information they need about the species held there and procedures being performed.
- 6.6 Principal Investigators/Project Licence Holders are responsible for ensuring that:
- Studies involving animals are planned ethically and with the welfare of the animals in mind, receive the appropriate ethical approval, as required, and comply with the appropriate legislation.
 - All those involved in projects that come under ASPA have a [Personal Licence \(PIL\)](#), where required, and an appropriate [Project Licence \(PPL\)](#) is in place and that they are familiar with the conditions of each licence.
 - All individuals involved in research are appropriately trained and receive adequate supervision and records of the training and supervision are kept as per project licence standard conditions.
 - They and their researchers are fully conversant with the legislation governing the research and any relevant codes of practices.
 - They are committed to keeping up to date with and implementing the latest good practice in relation to ethical standards.
 - They are committed to replacing, refining and reducing the use of animals in scientific procedures ([3Rs](#)).

7. Ethical review process and Animal Welfare and Ethical Review Board (AWERB) requirements

- 7.1 The ethical review requirements for each category of animal research listed in section 3 are indicated below
- A. The use of living vertebrates and cephalopods in scientific procedures within the University and the UK which are regulated by the [Animals \(Scientific Procedures\) Act 1986 \(ASPA\)](#).
- Research that falls into this category requires ethical approval by the University of Liverpool's AWERB.
- B. The use of living vertebrates and cephalopods in scientific procedures being conducted outside the UK that would fall under the definitions of ASPA if conducted in the UK.
- Research that falls under this category (collaboration with other laboratories outside of the UK, or where animal facilities are being provided by third parties outside of the UK) requires ethical approval by the University of Liverpool's AWERB. Our AWERB needs to be satisfied that welfare standards are consistent with UK and local legislation and their policy principles are applied.
- C. The use of tissue, in research, harvested from vertebrates and cephalopods that have been bred or killed solely for the purposes of research regardless of where the animals or tissue was sourced. This will also include animals or other protected animals (under ASPA) that have died of natural or accidental causes.
- Research that falls into this category requires appropriate and proportionate ethical review by the University of Liverpool's AWERB including Schedule 1 killing. [Schedule 1 killing is not a procedure regulated by law, even if it is for experimental purposes].

- D. The use of vertebrates and cephalopods or their tissues that are not covered under A – C above, or if the research does not involve the animal in scientific procedures (for example, behavioural and / or observational work).

Research that falls into this category requires appropriate and proportionate ethical review, the oversight of which may be delegated by AWERB to appropriate experts or subcommittees.

- E. Investigations of Clinical Veterinary Research or Routine Agricultural Practices (as defined by the [Royal College of Veterinary Surgeons](#)). These typically involve owned animals that were originally bred for purposes other than research (e.g. pets, farm animals, leisure or racing horses) under study in a clinical or agricultural context.

This work is not regulated by ASPA but has animal welfare and ethical, human ethical (covered by University ethics policy), and professional considerations. These projects are therefore reviewed by an expert veterinary subgroup of the Institute of Infection Veterinary and Ecological Sciences Research Ethics Committee.

8. Definitions

ASPA Animals (Scientific Procedures) Act 1986

AWERB Animal Welfare & Ethical Review Board

NACWO Named Animal Care and Welfare Officer

NVS Named Veterinary Surgeon

NC3Rs National Centre for Replacement, Refinement and Reduction

NPRC Named Person Responsible for Compliance

RIGC Research Integrity Governance Committee

The 3Rs:

- Replacement – methods that avoid or replace the use of animals in research that has the potential to cause them harm.
- Refinement – improvements to procedures and husbandry which minimise actual or potential pain, suffering, distress or lasting harm and/or improve animal welfare in situations where the use of animals is unavoidable.
- Reduction – methods which minimise animal use and enable researchers to obtain comparable levels of information from fewer animals or to obtain more information from the same number of animals, thereby reducing future use of animals.