

The use of animals in research in the University of Dundee

Why use animals at all?

The University is proud of its world-class standing in biomedical research. Its programmes are aimed at understanding the causes of human diseases and facilitating the development of treatments to alleviate them. Many of the important discoveries made in these programmes have depended crucially on the use of experimental animals. The University also takes its ethical and legal responsibilities very seriously. Alternatives to the use of living animals (for example computer models and increasingly sophisticated cell culture systems) are adopted whenever possible, but procedures that involve animals continue to be necessary in many cases, particularly when the integrated behaviour of complex physiological systems is being studied (e.g. the immune system, metabolic regulation, the nervous system and the response to experimental medicines). The results of these studies are of great importance in understanding, and thereby potentially being able to treat or prevent, serious health problems including cancer, heart disease, diabetes, genetic disorders and infectious diseases. Nevertheless, it is very important that these potential "benefits" to human and, indeed, animal health can be seen to outweigh the welfare "costs" experienced by experimental animals.

What do we mean by "animal"?

To a biologist, the animal kingdom encompasses a huge range of organisms, from single-celled organisms to humans. A more restricted definition of "animal" is used legally, in the provisions of the Animals (Scientific Procedures) Act 1986. This defines an "animal" to be any vertebrate (i.e. with a backbone) except humans, and one invertebrate (a particular species of octopus). The current legal definition of "animal" is used throughout this document.

Species in use in the University

The University currently has facilities for the housing of mice, rats and some other small rodent species, rabbits and amphibia. Mice account for about 97% of the animals being housed in the University at any one time, with these other species making up the other 3% between them.

Ethical review

The "cost / benefit" analysis is carried out in the University's ethical review process. This involves a detailed analysis of research proposals by an ethical review committee, which comprises a mixture of scientists and nonscientists and includes people with specific expertise (e.g. a veterinary surgeon). As well as the consideration of applications for projects to use animals, there are processes for monitoring progress and compliance of on-going research programmes, overseeing the training and competence of University members who work with animals and maintaining the standards of housing in which animals are kept.

The 3Rs

The University constantly strives to improve animal welfare and to minimise animal suffering through implementation of the "3Rs".

These are:

- ▲ The REDUCTION of the number of animals used to the minimum consistent with the desired outcome, e.g. by careful experimental design and by exhaustive study of the scientific literature to avoid unnecessary repetition;

- ⤴ The REFINEMENT of procedures so that the least possible harm is done in collecting the scientific information;
- ⤴ The REPLACEMENT of animals, wherever possible, with alternative systems with which to conduct research.

The ethical review process acts as a central hub for the dissemination of best practice in the "3Rs" within the University, so that an advance made by one individual or group can be swiftly adopted by as many others as possible.

Legislative requirements

All scientific procedures that involve the use of animals require the approval of the ethical review committee. The great majority must also be licensed by the Home Office under the Animals (Scientific Procedures) Act 1986. Compliance with the provisions of the law is monitored closely by the University and, indeed, by the local Home Office inspector, who makes regular and unannounced visits. All licence-holders must have prior training and those directly working with animals must be closely supervised until judged to be competent to work on their own. Exacting standards of cleanliness and environmental control have to be maintained in areas where animals are kept or used.

Undergraduate students

None of the University's current teaching programmes requires undergraduate students to perform procedures requiring licences under the Animals (Scientific Procedures) Act 1986. Undergraduates may, however, be present when scientific procedures involving animals are carried out.

Veterinary supervision

The University retains the services of a veterinary surgeon, who sits on the ethical review committee and is available to offer advice on the welfare of any animal on University premises and, when necessary, to prescribe and administer treatment of incidental ailments. The veterinary surgeon is not an employee of the University and is independent, with direct access to senior management.

Compliance

The University expects very high standards of behaviour from all its members who are involved with the use of animals. Failure to comply with these standards can lead to withdrawal of facilities and/or disciplinary action.

Relevant websites

The University is a corporate member of Understanding Animal Research (www.uar.org.uk) and the Institute of Animal Technology (www.iat.org.uk). Interested readers are also directed to the websites of the National Centre for the 3Rs (www.nc3rs.org.uk) and Science, Research & Statistics Section of the Home Office (www.homeoffice.gov.uk/science-research/animal-research).