

## LASA POSITION PAPER

### The 3Rs: Replacement, Reduction and Refinement

#### Background

The concept of the '3Rs' was developed by Russell and Burch in their book 'The principles of humane experimental technique', published in 1959. This concept has been widely adopted within biomedical research and is explicit or implicit within relevant European legislation or guidelines and in the UK legislation, the Animals (Scientific Procedures) Act 1986.

#### LASA Position

LASA is cognisant of and shares societal concerns over the infliction of pain, suffering or distress on animals for any purpose. It fully supports the intricate regulatory framework which exists in the UK to minimise the impact on animals used in scientific procedures, whilst permitting the legitimate advancement of biomedical science and technology. LASA therefore subscribes unreservedly to the 3Rs of Russell and Burch, as follows:

Live animal procedures should be replaced wherever possible by alternative methods that do not involve the use of live animals. New methodological developments and recent innovations in biomedical science, which could potentially replace the use of animals are kept under review by the Alternatives Section of LASA. This information is made available to members of LASA and to others interested in the use of animals for scientific purposes. It is acknowledged that it is necessary to validate fully such alternative methods before they can replace the use of animals; however, where the validity of such techniques has been confirmed, LASA endorses and promotes them as replacement methods.

The number of animals used in a given project should be reduced so far as is practicable, without compromising the reliability of the results, by the application of continuing improvements in science and experimental design. Thus LASA publicises, promotes and argues for the selection of appropriate models and for monitoring, and where possible making improvements to, experimental design.

Scientific procedures should be refined so as to minimise any suffering that may be caused. Such refinement may be achieved, for example, by the use of appropriate anaesthetics and analgesics or by the use of less invasive techniques. Refinement is also achieved by providing animals with a suitable environment and ensuring they are free of disease, both by facilitating discussion and disseminating knowledge on developments in the care and welfare of animals and on the use of scientific techniques which minimise their adverse effects on animals.

In pursuing the 3Rs, LASA not only provides financial support for the development of new initiatives by administering funds made available for this purpose by a pharmaceutical company, but also actively publicises and promotes the principles of humane experimental technique for the benefit of laboratory animals, the scientific community and the public.