

# The 3 Rs

Embedded in the Australian code of practice for the care and use of animals for scientific purposes is the requirement that those carrying out scientific and teaching activities consider the 3 Rs.

## Replacement

Techniques that totally or partially replace the need to use animals for scientific purposes must be sought and used wherever possible.

## Reduction

Each project must use no more than the minimum number of animals necessary to ensure scientific and statistical validity. You should not, however, reduce the number of animals used at the expense of greater suffering of individual animals.

Scientific and teaching activities involving the use of animals must not be repeated unless essential for the purpose or design of the project.

Teaching activities must involve no more than the minimum number of animals required to reach the educational objectives.

Overproduction of animals bred for scientific purposes should be avoided so that the need to kill healthy animals is minimised.

## Refinement

You must use animals suitable for the scientific purpose, taking into account their biological characteristics including: behaviour, genetic attributes and nutritional, microbiological and general health status.

The design and management of animal accommodation should meet with the needs of that specific species. Special consideration is required where this is precluded by the requirements of the project. Animals should be transported, housed, fed, watered, handled and used under conditions that meet the specific needs of their species.

The welfare of the animals must be a primary consideration in the provision of care, which should be based on behavioural and biological needs.

Investigators and teachers who use animals for scientific purposes must employ the best available scientific and educational techniques. They must be competent in the procedures they perform or must be under the direct supervision of a person competent in the procedure.

Projects should be designed to avoid both pain and distress in animals. If this is not possible, pain or distress must be minimised. Pain and distress cannot be evaluated

easily in animals and therefore investigators and teachers must assume that animals experience these in a manner similar to humans unless there is evidence to the contrary. Decisions regarding the animals' welfare must be based on this assumption.

An animal with signs of pain or distress not predicted in the proposal must have the pain or distress alleviated promptly. Alleviation of such pain or distress must take precedence over completing the project. If this is not possible, the animal must be euthanised without delay.

Scientific and teaching activities that may cause pain or distress of a kind or degree for which anaesthesia would normally be used in medical or veterinary practice, must be carried out using anaesthesia appropriate to the species and the procedure. Pain management appropriate to the species, the procedure and the circumstances must be provided. The use of local or general anaesthetic, analgesic or tranquilising agents must be appropriate to the species, and should at least parallel their use in current medical or veterinary practice.

Where it is established that the purpose of the project precludes the use of anaesthetic or analgesic agents to alleviate pain, the planned endpoint of the project must be as early as feasible to avoid or minimise pain or distress in the animals.

Neuromuscular blocking agents must not be used without appropriate general anaesthesia, except in animals where sensory awareness has been eliminated. If such agents are used, continuous or frequent monitoring of paralysed animals is essential to ensure that the depth of anaesthesia is adequate to prevent pain or distress. Death as an endpoint must be avoided wherever possible. Scientific and teaching activities involving the use of animals must be of minimum duration compatible with the objectives of the project.

Wildlife should not be taken from natural habitats unless animals bred in captivity are not available or are not suitable for the specific scientific purpose.

