Council on the protection of animals used for scientific or educational purposes

Adopted on 16 September 2015

WELFARE OF EXPERIMENTAL ANIMALS

DEFINITION OF WELFARE

An animal's welfare is how it perceives its psychological and physiological state. The concept of animal welfare describes the psychological and physical condition of an animal, which may range from good to bad. An animal's welfare depends on its opportunities to adjust to the events and conditions in its surroundings. If an animal is unable to adjust or its efforts to adjust cause the animal constant or strong stress, strain, behavioural deficits or health-related harm, its welfare is weakened. The welfare of experimental animals depends on their genome and any alterations in this, state of health, housing conditions, care and experimental procedures performed on it.

ASSESSMENT OF WELFARE

The welfare of experimental animals can be assessed using the Welfare Quality® principles[1] designed for assessing the welfare of farm animals and the twelve distinct, more specific criteria. These are based on the Five Freedoms, but they also highlight positive experiences of animals as one of the elements of welfare.

Principles	Criteria
Good feeding	1 No prolonged hunger 2 No prolonged thirst
Good housing	3 Comfortable place for resting 4 Comfortable temperature 5 Opportunity to move freely
Good health	6 No physical injuries 7 No disease 8 No pain induced by measures
Appropriate behaviour	9 Expression of social behaviour 10 Expression of other behaviours 11 Good human-animal relationship 12 Positive emotions

ENHANCING WELFARE

The life of an experimental animal should be as good as possible from birth to death. These animals may have to live in restricted housing conditions and procedures causing pain or distress may be performed on them for experimental purposes. It is required by law that the pain, suffering, distress or lasting harm caused to animals used for scientific or educational purposes is minimised. The welfare of experimental animals is safeguarded via the **Refinement obligation**, which is one of the **3R principles**[1]. Refinement must be applied both in the rearing and care of animals and when performing procedures on them. Refinement means that the distress to be caused to an animal must be prevented or reduced to the minimum and active measures must be taken to promote the animal's welfare.

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[1] Welfare Quality®: http://www1.clermont.inra.fr/wq/

[1] The 3R principles:
Replacement: Another method is used instead of animals whenever possible.
Reduction: A minimum number of animals is used.
Refinement: Animals are reared and cared for and procedures are performed on them in the best possible way.

Methods for the rearing and care of animals must be constantly developed to take better into account the species-specific housing and behavioural needs.	**Experimental procedures must be designed and performed in a way that the animal's welfare does not deteriorate or its deterioration is minimised. Stress experienced by the animal during experimental procedures can be reduced by adjusting the housing conditions and care.**
Qualified staff whose knowledge and skills are maintained by continuous training.	**Qualified staff** whose knowledge and skills are maintained by continuous training.
Good housing: for example, suitable, sufficiently spacious, comfortable, varied and safe housing with nesting material and/or space, enrichment and company of conspecifics for social species.	**Good experimental design and knowledge of statistical methods:** Choice of the best research model with regard to the animal's welfare and statistical method to obtain reliable test results. Reliable assessment of the number of animals needed and preventing experimental bias.
Good care: for example, suitable feeding and watering, good hygiene, monitoring animal welfare at sufficient frequency and appropriate skills in handling animals. Animals have a positive and trusting attitude towards humans and they are accustomed to being handled and to having procedures performed on them.	**Good procedural techniques**: mastering of handling of animals and experimental techniques enable the selection of the best methods with regard to the animal's welfare while avoiding unnecessary harm. Where possible, animals experience positive emotions associated with the procedures.
Good health: preventing the risk of spreading pathogens and injuries.	**Preventing and reducing pain and distress**: Selection of procedures in a way that minimum or no harm is caused to the animal. Use of appropriate anaesthesia and pain relieving methods where necessary.
Good breeding practices: species and strain-specific special needs and those caused by genetic modification are taken into account in the insemination and rearing of animals and monitoring their welfare.	**Taking harm due to the genome into account**: preventing or minimising the effects of artificial alteration of the genome on animal welfare. Design of the procedures in a way that the combined impact of the harm caused by them and the genome is not excessive.
Use of timely humane end-points: breeding animals replaced by new ones before their welfare starts to deteriorate, monitoring of the offspring and killing weak individuals as early as possible.	**Use of timely humane end-points:** selection of the end-point of the procedure and criteria for discontinue a procedure in a way that reliable test results are obtained, minimum or no harm is caused to the animal and the duration of the harm is minimised.
Painless death: killing animals using appropriate methods and causing minimum distress to an animal.	**Painless death**: killing animals using appropriate methods and causing minimum distress to an animal while ensuring the reliable test results are obtained.