Chapter 2

RESEARCH, ANIMALS AND WELFARE
Regulations, alternatives and guidelines

Timo Nevalainen
National Laboratory Animal Center, University of Kuopio, Kuopio and Faculty of Veterinary Medicine, University of Helsinki, Helsinki, Finland

1. INTRODUCTION

High quality of biomedical research and acceptance of animal use overall in science necessitate refined animal welfare. On the legal side, the European Commission (86/609/EEC) states that the EU Member States must actively encourage and support the development, validation and acceptance of methods, which could reduce, refine or replace the use of laboratory animals (3R’s).

ESF’s (European Science Foundation) ‘Use of Animals in Research’ statement also strongly endorses the principles of the ‘3R’s’. ‘Efforts ought to be taken to replace the use of live animals by non-animal alternatives, to reduce the number of animals used in experiments to the minimum required for obtaining meaningful results and to refine procedures, so that the degree of suffering is minimised. Research aiming at improving the welfare of animals should be encouraged and actively supported (ESF 2001).

Recently started revision of the directive is likely to include cost-benefit analysis for ethical evaluation of animal studies at study level, a development which will undoubtedly emphasize the need for better laboratory animal welfare, both in procedures and in housing (European Parliament 2002).

The answer to all these requirements is obvious: Proper education and training of all involved.
2. EUROPEAN REGULATIONS

Harmonisation of the laws and regulations on use of vertebrate animals in research is the key aim of both the European Directive and the Convention (86/609/EEC, ETS123). These contain articles with almost the same text. The Convention includes Appendix A, housing and care of laboratory animals. This Appendix is experiencing a major revision, which is will definitely improve laboratory animal housing and care, and consequently animal welfare.

Article 5 of the Directive and the Convention states general principles of animal care and housing. ‘Any animal…shall be provided with accommodation, an environment, at least a minimum degree of freedom of movement, food, water and care, appropriate to its health and well-being. Any restriction on the extent to which an animal can satisfy its physiological and ethological needs shall be limited as far as practicable’ (ETS123).

Appendix A gives much more detailed guidelines for animal housing. It contains minimum space allocations for all laboratory species, facility requirements and routine animal care procedures. Appendix A is under revision, and the new one includes general and species specific parts, some with scientific basis for guidelines. The revision will increase some of the space requirements; emphasize group housing for all gregarious species and implementation of environmental enrichment. As such, the revised document is much larger than the present one, and it is expected to improve animal welfare (The Council’s Group of Experts on Rodents and Rabbits 2001). A more detailed description of and the basis for the revised Appendix A is presented in another chapter of this book.

Articles 6-12 deal with the procedure to be carried out for scientific purposes. The key message of these articles can be seen in the text of article 7: ‘in a choice between procedures, those should be selected which use the minimum number of animals, cause the least pain, suffering, distress or lasting harm and which are most likely to provide satisfactory results’ (ETS123).

What does it mean being harmonized? And how does harmonization relate to other requirements for animal welfare, ethics and science? In this environment harmonization can and should be seen as the minimum standard, below which nobody is allowed to operate. Well above the minimum standard, there should be an area of excellence, where ideals of ethics and science are the driving forces. This relation is illustrated in Figure 2-1.

Improvement of laboratory animal welfare means good science in the vast majority of cases. Yet, there may be conflicts as well. This possibility is acknowledged in passing in articles of both Directive and Convention of