

Promoting awareness of the Three Rs

The Three Rs (replacement, reduction and refinement) have a pivotal place as instruments for helping to minimise the cost, or harm, caused to animals by scientific procedures. They have the specific objectives of (1) avoiding the use of animals altogether, and, if that is not practicable, of ensuring (2) that the minimum number of animals compatible with achieving the purposes of the work is used, and (3) that the noxiousness of the procedures imposed on those animals which are used is minimised.

The Three Rs are not an end in themselves. They are an instrument to assist scientists when designing their experiments, and members of animal ethics committees when considering them, to evaluate rigorously one side of the utilitarian cost-benefit analysis which is required before scientific procedures

may be permitted - namely, assessment and minimisation of the cost or harm to the animals involved. The other side is assessing and maximising the anticipated benefits. This is not a trivial process. If it is given anything less than the most rigorous attention - if the cost or harm to the animals used is not minimised and the benefits for other animals and/or people are not maximised, so that the difference between the cost and benefit is less than the greatest that we can feasibly achieve - then the utilitarian ethical justification for the proposed activity is weakened (Battye, 1994, 1998, Mellor, 1998).

Awareness of the Three Rs tenet and its role in the humane and responsible conduct of animal-based science and testing has gained ground substantially among those with strong interests in the ethics of such animal uses

(Abstracts, 1993; van Zutphen and Balls, 1997). In contrast, the Three Rs tenet itself and its role do not appear to be particularly well known among animal users themselves, the wider scientific community or the general public. Accordingly, there is a need to improve awareness of the Three Rs among the practitioners of animal-based science and testing. It is noteworthy, however, that when the Three Rs are applied, it often appears to occur as an implicit activity in which minimising financial cost, and maximising convenience and the scientific value of the results, achieve much the same ends as does explicit application of the Three Rs tenet as an ethical principle. This is especially so with replacement and reduction because of the high cost of animals.

Some would argue that it matters little whether or not the outcomes of replacement, reduction and/or refinement are achieved by the conscious application of the Three Rs tenet as a part of the utilitarian ethical justification for animal-based science, or by a fortuitous result of considering economic, scientific and/or convenience issues during the formulation of applications to animal ethics committees, provided that the Three Rs

outcomes are achieved. There is force in that argument, at least as an interim stage while animal users become more conversant with major ethical issues which are relevant to their activities. In the longer term, however, a more ethically literate community of animal users who can demonstrate an understanding of the value systems which guide their uses of animals, including the precise practices they employ and the justifications for them, would better generate confidence and maintain public support for such activities. The interests of the public, as represented by the independent members of animal ethics committees, as well as the interests of animal users, would both be served by such an outcome.

Accordingly, it is worth considering a number of specific initiatives, which are in tune with international developments (Balls *et al.*, 1995) and which would have the following objectives:

- to encourage an explicit awareness among animal users of the place and role of the Three Rs in the ethical framework supporting scientists' use of animals;
- to demonstrate that explicit and meaningful consideration has been given to

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