The Use of Animals in Medical Research

A responsible balance

Factors that swing the balance

- The goal of the research and the expected human or animal benefit resulting from that research.
- The existence of non-animal alternatives for the research.
- The number of animals used.
- The application of measures to limit any suffering to the animals.

Ethical committees oversee the strict application of the three R's principle and determine which way the balance swing.

Replacement

If there is a non-animal alternative, it must be used.

Reduction

If the experiment can scientifically be done with fewer animals, then the number must be reduced.

Refinement

If there are ways to limit any suffering, these measures must be applied.

No animal experiment without approval from an ethical committee

Animal care in practice

- Appropriate housing with good lighting, correct temperature and humidity.
- Access to plenty food and water.
- Health and welfare monitoring by a designated veterinarian.
- Certified training of all personnel involved in animal experiments.

Animal models

- Non-animal models generate important knowledge about diseases and help to identify and validate relevant targets for developing new therapies.
- Modern genetic tools allow the creation of animal models that mimic the human disease condition in an ever more precise manner.
- Worldwide there are many thousands of different animal disease models in fruit flies, zebra fish and especially mice.

Ethical duty to protect human subjects

- There is an ethical imperative to protect human clinical trial subjects from undue harm or suffering. This is why medical ethical review boards demand solid experimental data from pre-clinical research before allowing a trial drug to be administered to a human being.
- Such data can in most cases only be produced using live animals. There are no robust non-animal models that can uncover unexpected side-effects.

Non-animal methods

- Non-animal methods such as the use of cell cultures or computer modeling approaches are used in most if not all lines of research.
- It is less complex to develop non-animal methods in more applied toxicological research rather than fundamental biomedical research.
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Animal experiment statistics

- In Belgium in 2014 664,471 animals were used in experiments (this is a grand total that includes medical research).
- 68.8% were rodents (mostly mice)
- 20.2% were fish (mostly zebrafish)
- 0.3% were dogs and cats
- 0.007% were primates

Strict administrative requirements

- On top of the moral and animal care obligations there are very strict administrative requirements. Some of these do not contribute to the welfare of the animals and only lead to biomedical researchers and animal care staff spending more and more time on paperwork.

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We must be careful not to shift the balance too strongly in either direction. Making the legislation even more strict will endanger important medical research in favor of overly exhaustive paperwork which does not contribute to animal welfare.