“Scientist’s perspective on ethics”

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http://molecularvirology.org
Scientist’s perspective on ethics

Virologist
>20 years experience with animal research
Mice – transgenic models
Farm animals
Experience of scientific/ethical assessment (BBSRC/NC3Rs)
Academic editor of PLoS ONE
Chair of AWERB
Why should scientists be concerned about ethics?

- **Science is a moral enterprise** – pursuit of scientific knowledge will benefit society
- Science we perform will improve the conditions of human existence and the wider environment.

- We have an ethical and moral responsibility to the animals used (by us and others).
- Public support for animal research is conditional on effective governance – robust ethical review and justification
- Reputation – personal and institutional
  - current and historical. High quality of ethical justification to needed to stand test of time

- Cost verses benefit

- Reduction, replacement, refinement
Why should scientists be concerned about ethics?

- **Better science**
  
  Rigorous ethical review leads to
  
  - Most refined and appropriate model systems
  - Most appropriate experimental design
    
    Meta analysis/systematic review
    Statistical design
  
  - Better success in funding applications
  - Easier to publish in high quality journals
Competing drivers in academic life

Core activities
- Grant income
- Teaching
- Post-grad students

Non-core activities
- My 4* Paper(s) for REF
- Health and Safety
- Research Integrity
- Admin (AWERB)

Often less time/emphasis/recognition or recognition for non-core activities
International differences in ethical standards

- Collaborators, authors and referees can be from countries with very different (or no) ethical framework
- Take care to ensure there are equivalent standards (personal and AWERB)
- Ensure local ethical review in own institution.

Common requests in grants and manuscripts can conflict with local ethics:
Repetition of experiments without statistical justification
“The authors should look at survival curves”…..
“Data on lethality should be shown”……..

Robust ethical review and experimental design can help counter these
NC3Rs ARRIVE/EDA
Delegation of responsibility

- As you move through career can become divorced from practical work – de-skilled
- With animal work this generates ethical issues
- Need for training and delegation of responsibility

BUT

- Why should I (and is it ethical) to expect someone else to perform my animal experiments?
Ethical values can change

What is seen as mainstream currently may be unacceptable in the future

Need to acknowledge this and constantly reflect and review our work
Time for reflection

It’s important to create time for reflection
Workshops, meetings dedicated to animal research (internal/external)
  Share best practice
  current technologies/models
Retrospective review - formal or personal
What can the AWERB do to help?

- Sometimes seen as administrative block to HO licence?
- Discussion of wider ethical issues
  - Are some models/techniques still acceptable?
  - Impact of new technologies (e.g. CRISPR)
- 3Rs seminars highlighting local/national advances
  - e.g. recently in Liverpool:
    - The use of survival analysis in animal studies. Richard Preziosi
    - Systematic review of literature and meta-analysis for animal studies: Richard Preziosi,
    - End to severe suffering project: Elliot Lilley, RSPCA
    - Incorporating the 3Rs into the preclinical assessment of venom toxicity and antivenom efficacy: Fiona Bolton
    - Galleria as an alternative model for infection studies: Olivia L Champion
What can the AWERB do to help?

• Support for experimental design –
  Liverpool retain experimental design expert - Prof Richard Preziosi
  NC3Rs EDA – recently organised training
• Advice on best/current models or alternatives
• CPD qv NHS and other professional functions
  Attendance at internal discussion meetings/seminars
  could act as check to further ethical approval
Sources

Delivering Effective Ethical Review: The AWERB as a ‘Forum for Discussion’ (RSPCA/ESRC/University of Nottingham/LASA/IAT/LAVA 2017) January 2017


Animal Welfare, Ethics and the 3Rs training materials and resources
Dave Lewis. LASA/NC3Rs

Experimental Design Assistant (EDA). NC3Rs.
http://www.nc3rs.org.uk/experimental-design-assistant-eda

NC3Rs ARRIVE Guidelines http://www.nc3rs.org.uk/arrive-guidelines

CAMARADES NC3RS systematic review facility
https://www.nc3rs.org.uk/camarades-nc3rs-systematic-review-facility-syrf