Outline

• Promoting ‘a good life’ for research animals
  – Evaluating needs, provision of choice
• Improving welfare assessment tools
  – Monitoring distress and pain
  – Refining and implementing endpoints
• Changing global practices for care and use of research animals + veterinary training in LAM

Assessment of Animal Needs

• Development of science-based guidelines for research animal care and use
• Explosion of research evaluating environmental preferences, need for social companion, cage and substrate material preferences
• Has resulted in consideration of environmental enrichment for all species, but…

Need to develop a common language regarding what enrichment is

Nesting material for mice – a basic need

Condideration of ‘natural living’ requirements – example from NovoNordisk (Ottesen, 2004)
Improving Welfare Assessment Tools and Training Techniques

- Harm: benefit analysis during ethical review
- *A priori* determination experimental endpoints required (experimental endpoint = animal removed from study, animal euthanized, treatment initiated, etc)
- Earliest endpoint is sought – pilot studies required if no information is available
- Biomarkers used as surrogate endpoints, wherever possible
- Refinement of welfare assessment tools
- Use of PRT for reducing animal stress and promoting human: animal interaction

Analgesia management

Facial grimace scales for pain assessment

- Rats
- Mice


Evaluation of analgesia efficacy after ear notching of 21 d.o. mouse pups

ONPRC Positive reinforcement training

OIE Ad Hoc Working Group – 2010 Laboratory Animal Welfare

Article 7.8.5: It is important that veterinarians working in an animal research environment have veterinary medical knowledge and experience in the species used, including the normal behaviour of the species, and they should understand research methodology. Relevant approvals issued by the veterinary statutory body and appropriate national or regional schemes (where these exist) should be adopted as the reference for veterinary training.
Global training standards in laboratory animal medicine

- Problem: no current international harmonised standards
- Few veterinarians working in LAM have formal training (yet highly involved with animal import/export, disease and biosecurity monitoring, animal welfare, regulatory animal testing, and area of significant public interest)
- Area of need – science is global

Global organizations for LAS - IACLAM, ILAR, and ICLAS*

- IACLAM (2005) – organization of global colleges LAM – promotes role of LAV, and their education and training, WVA member
- ILAR (1953) – established first OIE Lab Animal Welfare & Science Collaborating Center 2013
- ICLAS (1956) – OIE observer status – promotes harmonization of lab animal care globally

IQ3R’s*

- Conducted 3Rs benchmarking survey of member companies - information to guide future projects
- Working with Contract Research Organizations (CROs) to create practice guides for dosing, blood collection, husbandry practices, vet authority and site assessments
- Co-sponsoring 3Rs Webinar series and annual 3Rs Sharing Conference with New Jersey Association for Biomedical Research

*International Consortium for Innovation and Quality in Pharmaceutical Development http://hcp consortium.org/initiatives/leadership*

Veterinarian’s role in promoting laboratory animal welfare

- Justify substandard conditions and practices? (retreat)
- Accept moral problem may exist (reasons for change not necessarily rational)
- Seek means of addressing concerns
- Advocate for optimal practices and raising the bar (moving forward)

IOM Report, December 2011

The use of chimpanzees in biomedical research is limited to those studies that meet the following three criteria:
1. There is no other suitable model available, such as in vitro, for the research in question, and
2. The research in question cannot be performed ethically on human subjects, and
3. Forgoing the use of chimpanzees for the research in question will significantly slow or prevent important advancements to prevent, control and/or treat life-threatening or debilitating conditions

The Future...

The use of animals in biomedical research is limited to those studies that meet the following three criteria:
1. There is no other suitable model available, such as in vitro, for the research in question, and
2. The research in question cannot be performed ethically on human subjects, and
3. Forgoing the use of animals for the research in question will significantly slow or prevent important advancements to prevent, control and/or treat life-threatening or debilitating conditions
Summary

• For those in LAS, recognize conflict of interest - can’t control where this will go
• Renewed focus on animal comfort and provision of a life worth living
• Emphasizing development of objective animal welfare assessment tools
• Developing global networks and strategies to enhance practices and enhance research animal welfare
• Requires change in thinking and resources

Thank-you!