Ethical Considerations Regarding the Use of Marmosets in Research

Care, Use and Welfare of Marmosets as Animal Models for Gene Editing-based Biomedical Research

An ILAR Roundtable Workshop

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Washington, DC
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For the record

- The opinions in this presentation are mine alone, and may not reflect those of my host, current or past employers, professional affiliations, colleagues, family, or anyone else I ever met.

- I have no commercial or financial conflicts to declare. Any commercial entities named are only for example purposes and does not imply an endorsement of their products or services.
In Gratitude

to Dr. Lida Anestidou for the invitation to speak on lab animal ethics

to Dr. Monika Burns for a tour of MIT’s marmoset colony and of DCM’s knowledge and opinions about their care and medicine
For the record (cont.)

- I have no significant experience in captive marmoset care or medicine
- I am not an established academic philosopher or moralist
- But I am a professional (animal) ethicist

“Being admitted to the profession of veterinary medicine, I solemnly swear to use my scientific knowledge and skills for the benefit of society through the protection of animal health and welfare, the prevention and relief of animal suffering, the conservation of animal resources, the promotion of public health, and the advancement of medical knowledge...”
Today’s lineup

1. My assigned topic
2. What’s at stake
3. What won’t work
4. What might work
5. What could go wrong
6. Why we should try anyway
1. My assigned topic

“Analyze the ethical imperative of being cognizant of your knowledge before starting research with marmosets (small colonies; transport; stress)”
2. What’s at stake

- Sentient
- Intelligent
- Complex social needs
- Regulated
- Limited supply
- Fragile in captivity
- Cute!
2. What’s at stake

Bad outcomes if unintended bad things happen:

↓ Animal welfare
↓ Institutional reputation
↓ Public support for biomedical research
“... being cognizant of your knowledge...”

Option #1: rely on established methods

Option #2: don’t go there
A great foundation
3. What won’t work

• USDA inspections: problems publicized after the fact (too late)
• OLAW Assurance: self-reporting lapses (too late), ± limited to federally funded research (as dictated by an institution’s Assurance)
• AAALAC accreditation: voluntary (confidential), site visit only every 3 years, only confirms compliance with the Guide, AWA, PHS Policy
• IACUC semi-annual program reviews & inspections, PAM: internal perspective (either less objective or less credible)
• 3 R’s designed for animal use, not care
4. What might work

• Independent, expert confirmation of competence
  • Rather than internally assured “cognizance of knowledge”

? Peer (collegial, non-binding) site visits, community conference calls

? Outcomes metrics (evidence-based performance standards)
  ? Growth, reproduction, morbidity/mortality, clinical & anatomic path, genomics
  ? For naïve animals
  ? Shared via a network or repository

? Organized under ILAR, APV
Offer a “starter kit” to newbies?

- Recommended minimum # animals
  - Age, sex distribution of starting population
- Appropriate caging, diet, EE
- Dx capabilities and Rx inventory
- Occupational medicine program
  - tb testing, MMR vaccination_proof of + titer
4. What might work

- Recruit caging, EE, food vendors for continuous product improvement
- Share competence assessments with OLAW (= public)
- Share performance standards and outcomes with USDA, OLAW (= public)
- Involve responsible animal protectionist groups
5. What could go wrong

• May discourage/impede new players, competition
  • Current players lose monopoly on expertise, funding advantage

• Limited animal supply distributed across more sites
  • Insufficient populations for normal behavior at each site?
  • Partial solution – expand scientific collaborations to Brazil – more natural environment (more natural behavior = better data?)

• What if institution can’t achieve or sustain competency?
• How to manage adverse publicity?
6. Why we should try anyway

2015: “In U.S., More Say Animals Should Have Same Rights as People”

6. Why we should try anyway

2017: “Americans Hold Record Liberal Views on Most Moral Issues”

“Medical testing on animals is another issue showing substantial change over the past 16 years, with the percentage finding it morally acceptable dropping from 65% in 2001 -- when it ranked among the most acceptable issues -- to 51% today. Unlike the shifts in attitudes about marriage, young adults are driving attitudinal changes on animal medical testing. Fifty-nine percent of Americans aged 50 and older believe medical testing on animals is morally acceptable, compared with 45% of those younger than 50.”

6. Why we should try anyway

Current approach isn’t winning the battle for hearts (and minds)

1 bright exception = FBR’s campaign

Are we in the midst of a paradigm shift?
↑ (purported) (instant) transparency
↑ (instant) global communication
↑ opinion immortality

(Animal) ethics can and will continue to reflect contemporary/changing values, i.e., what we’re doing today may not suffice

https://fbresearch.org/
On the contingent nature of ethics

• “If all were unanimous in their ideas of honor and wisdom, there would have been no strife to make men disagree; but, as it is, fairness and equality have no existence in this world beyond the name; there is really no such thing.” – Euripides

• “The laws of conscience, which we pretend to be derived from nature, proceed from custom” – Montaigne

• “... we neither strive for, wish, seek, nor desire anything because we think it to be good, but, on the contrary, we adjudge a thing to be good because we strive for, wish, seek, or desire it.” – Spinoza

• “What else does the history of ideas prove than that intellectual production changes its character in proportion as material production is changed?” – Marx
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