Institutional Animal Care & Use Committee (IACUC)

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Humans and animals have many comparable physiological processes. Genetically modified animals, usually mice, can be bred to increase these similarities with humans.

Basic research (compared to applied research) provides the underpinnings for development of new medical and veterinary treatments.

- **Basic** research seeks to expand our knowledge
- **Applied** research seeks to answer a specific question or need (e.g., create a new device)
For example:

In the early 20th century, most medical professionals suspected polio was an infectious disease, but had little proof. In 1908, investigators used extracts from the spinal cord of a boy who had died from polio to replicate the disease in monkeys. In 1955, it was announced that a successful polio vaccine for humans had been discovered.
Why is there an IACUC?

- New medical treatments are required by law to be tested on animals before entering human clinical trials.

- To regulate the use of animals in research, and ensure that they are afforded humane care.

- To assure ethical standards of research are maintained.

- The law **requires** research institutions to have an IACUC!
  - Mandated by the Health Research Extension Act (HREA), the Animal Welfare Act (AWA), and Public Health Service (PHS) Policy.
Regulatory Agencies

Organizations ensuring humane care and use of animals in research:

- The United States Department of Agriculture (USDA)
- The Office of Laboratory Animal Welfare (OLAW)
COMPONENTS OF AN ANIMAL CARE AND USE PROGRAM

INSTITUTIONAL LEADERSHIP

PI RESPONSIBILITY

Animal Welfare

DAILY ANIMAL CARE (CCM)

IACUC
The IACUC balances the possible harm to an animal against the potential benefit of the research involving each animal.

The IACUC makes recommendations to improve animal welfare. 

_Better standards of animal welfare produce better quality research._
When applicable, the IACUC encourages investigators to discover \textbf{alternative methods} by:

- \textbf{Replacing} animals with other research methods

- \textbf{Refining} procedures to minimize potential pain/distress

- \textbf{Reducing} animal numbers
Key Functions of the IACUC

- Program Policy & Training Requirements
- Protocol Review
- Post Approval Monitoring (PAM)
- Animal Subject Protection
- Facility/Lab Inspections & Satellite Review
- eIACUC Training & Support
- Assist New Research Personnel
CCM & IACUC

Center for Comparative Medicine (CCM)

- Maintains animal facilities at all NU research sites
- Manages access to the animal facilities
- Provides husbandry and veterinary care to the animals
- Provides training to research personnel

Institutional Animal Care and Use Committee (IACUC)

- Reviews research protocols for work at all NU research sites
- Evaluates the animal care program (e.g., PAM, inspections)
- Advises on program policy and training requirements
- Facilitates online training and occupational health for research personnel
Before Protocol Approval…

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Getting Started

REQUIREMENTS FOR PERSONNEL

- Anyone seeking facility access (CCM) or having contact with animals must be listed on an approved protocol.
- All principal investigators and research staff handling and caring for animals are required to take the basic IACUC Online Training and Occupational Health Safety Program (OHSP) Enrollment. Please see below.

TRAINING AND OCCUPATIONAL HEALTH

There are three necessary steps to getting started in the IACUC: IACUC Online Training, Occupational Health Enrollment, and training on the electronic IACUC system, eIACUC.

1. IACUC ONLINE TRAINING
   All training modules must be completed by EACH individual listed on an Animal Study Protocol (ASP) or an addendum prior to the document being submitted to the IACUC.
   a. Contact Bruce Roberts at 312-503-9339 or 312-503-2818 or by e-mail at b-roberts@northwestern.edu. Provide the spelling of your name and he will assign a Username and Password. You will then have a Northwestern University account with AALAS Learning Library, which you will need in order to take classes. Use Firefox or Chrome when accessing AALAS Learning Library.
   b. Log onto the site at www.aalaslearninglibrary.org, click on "Subscriber Center" or "Personal Access" in the upper right corner and update your

http://www.iacuc.northwestern.edu/training.html

IACUC
Review: How It Works

Protocols receive either Designated Review or Full Committee Review

- **Designated Reviews** are completed by at least two Committee members and a veterinarian

- **Full Committee Review** involves a presentation to the full Committee by two members, assigned to review that protocol in advance of the meeting
IACUC Review Process

1. PI submits the study application to the IACUC
2. Application reviewed by IACUC coordinator for completeness
3. Application is assigned to Designated or Full Committee review
4. Application may require clarification or modification
5. Application is approved
6. If necessary, application is returned to the IACUC for re-review
7. Process continues until Reviewers are satisfied
8. Revised application is returned to the PI for revisions and resubmission
9. PI Action is Required
10. IACUC Action

Bubble Color Legend

- PI Action is Required
- IACUC Action
IACUC Approval

• The IACUC approves protocols for a three year period, even if sponsored funding is for a longer term.

• Protocols involving work with USDA covered species must be submitted for annual re-certification.

• A de novo protocol must be submitted to the IACUC prior to the end of the three year approval period to avoid inactivation.
What Does It Mean to Be Approved?

*The project may begin!*

- The PI works with OSR to open accounts to spend their grant money
- Project personnel may gain access to the animal facilities (through CCM), following training and individual approval
- The PI may order animals (through CCM)
Federal Funding & IACUC Approval

• If a PI receives federal funding (e.g., an NIH grant), the institution is required to assess the grant application and animal study protocol, ensuring that they are congruent.

• Key points:
  – The full grant application needs to be attached to the electronic protocol in order to facilitate the grant-protocol congruency review.
  – It is strongly recommended that a PI begin work on the protocol when they are notified that their score is fundable.
  – Greater pressure to have IACUC approval more quickly
Census

Animal Census (w/o Mice)

- Cats
- Dogs
- Gerbils
- Ground Squirrels
- Guinea Pigs
- Macaques
- Pigs
- Rats
- Xenopus
- Zebrafish

- Rabbits
A Numerical Summary

• So far in 2018, the IACUC has approved:
  – 129 new protocols
  – 1,020 amendments (i.e., changes/updates to active protocols).

• Currently 925 protocols are active.

Metrics?! Yum!
Questions?

You are also welcome to contact the IACUC Office:

Phone: (312) 503-9339
Email: acuc@northwestern.edu