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UCSF Statement on Its Animal Care and Research Program:

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The University takes very seriously the care and use of the animals it studies, beginning with ensuring that as few animals as possible are used in research. Every proposed study undergoes rigorous review by the University's Institutional Animal Care and Use Committee (IACUC), as required by both the federal Animal Welfare Act and the NIH's Public Health Service Policy on Humane Care and Use of Laboratory Animals.

In addition to considering many factors related to humane treatment when assessing a proposed animal study, the UCSF IACUC does not approve a protocol unless the principal investigator has demonstrated serious consideration of the 3 Rs: Replacement of research animals with cultured cells or computer models; Refinement of experiments to minimize pain and/or distress; Reduction in the number of animals used in the protocol to the minimum necessary to obtain valid results.

Indicating the quality of UCSF's animal care and use program, the University has maintained Full Accreditation from the Association for the Assessment and Accreditation of Laboratory Animal Care (AAALAC) since 2004. AAALAC accreditation is recognized as demanding the highest ethical standards for the care and study of animals and is the gold standard. This voluntary accreditation is awarded based on an AAALAC triennial (every 3 years) peer review evaluation of the entire UCSF program for animal care and use.

UCSF has one of the one of the largest animal research programs in the United States, dedicated to understanding and developing treatments for such diseases as cancer, cardiovascular disease, diabetes, HIV/AIDS, Alzheimer's and Parkinson's disease.

The size of the program reflects the strength of UCSF's research enterprise. UCSF ranks first of all public institutions nationwide in competitive funding from the National Institutes of Health (NIH), and second overall nationwide.

Compliance

Ensuring compliance of humane standards of animal research is an integral part of the UCSF animal care and use program. Every day, a team of veterinarians and technicians sees and cares for the animals, and compliance specialists randomly audit protocols and visit laboratories; twice a year the IACUC inspects every room where animals are studied; at least once a year, and often more, UCSF receives an unannounced visit by its

U. S. Department of Agriculture Veterinary Medical Officer (VMO) who performs rigorous inspections of the entire animal program. Several mechanisms are in place for reporting errors, including anonymously.

Once an animal protocol has been approved by the IACUC, the treatment of the animals is monitored by four levels of oversight:

- The UCSF Laboratory Animal Resource Center (LARC) includes:
 - Veterinarians and animal health staff who address the veterinary medical needs and health of all of the animals. The veterinarians also participate in research design as it relates to animal well-being.
 - Husbandry staff, who provide the daily basic care for the animals and can report animal health needs as well.
 - An environmental enrichment program aimed at providing animals with opportunities to express species specific behaviors and provide for animal behavioral needs.

- The IACUC, which oversees the animal research program, includes physicians, faculty experienced in animal research, members of the public, laboratory animal veterinarians and compliance staff. The committee reviews all proposed UCSF animal-research studies to ensure that the use of animals is justified, that the animals will receive the highest standards of care, that personnel are properly trained to carry out the research, and that investigators have considered the three Rs.

The IACUC includes a training and compliance team, comprised of a director and three staff who are dedicated full time to the routine inspection of animal facilities and research protocols and training of researchers.

UCSF Training and Compliance staff provides hands-on training to all researchers with less than one year experience with a species. This training is mandatory and must be completed before work with the species is begun. LARC and IACUC training staff are available for additional training in specific techniques and/or specialized handling. The IACUC Training & Compliance unit works with the LARC and individual laboratory groups to provide and document training programs, in accordance with federal guidelines and campus policy.

If a deviation from a research protocol or discomfort in an animal is noted by the LARC vets or IACUC compliance staff, LARC veterinarians are responsible for ensuring that any issues regarding animal well-being is addressed. It is also documented in the animal's medical record (which the USDA inspector can review if it is a USDA-covered species). The incident is investigated by the IACUC

training and compliance staff and reported to the IACUC. The director of the IACUC then submits a formal letter to the director of the Office of Laboratory Animal Welfare, signed by the UCSF Institutional Official, which is part of the National Institutes of Health (NIH). The process is transparent, as reflected in the 79 U.S. Office of Laboratory Animal Welfare (OLAW) reports which were made over a period of five years.

If the IACUC suspends an activity involving animals covered by the USDA (this excludes mice, rats, birds, and fish), the details surrounding the protocol suspension must be reported to the USDA. Any protocol suspensions must also be reported to OLAW.

- U.S. Department of Agriculture (USDA): The USDA makes unannounced inspections at least once a year, and audits use of USDA-covered species, mostly large animals like nonhuman primates, dogs, sheep, pigs, rabbits, voles, and similar animals. The inspector assesses the animals, reviews their medical records and the IACUC approved research protocol.
- U.S. Office of Laboratory Animal Welfare which is part of the National Institutes of Health: Indirect oversight is carried out by OLAW. This involves UCSF's IACUC self-reporting noncompliant activities to OLAW. Typically reported matters are situations that the IACUC Compliance staff, the veterinary staff or in some cases the researchers themselves identified and reported as noncompliant items to the IACUC. An investigation into how the event happened, how it was addressed, and how to prevent it from recurring occurs and then a verbal report is given to the IACUC, followed by a formal letter that is sent from the Institutional Official of UCSF to the director of OLAW.

Size of UCSF research program

Below are the animals studied over the course of 2011, as reported to our accrediting organization, AAALAC. They total nearly 770,000 animals – 99.8 percent of which are rodents or fish. We take seriously our responsibility to treat these animals humanely.

Mice – 633,507

Fish – 120,125

Rats – 14,266

Rabbits – 467

Hamsters – 273

Birds – 162

Nonhuman primates – 98

Amphibians – 93

Reptiles – 32

Other 217 voles
Sheep – 83
Pigs 66
Guinea Pigs – 39
Cats - 29
Dogs – 6

Background on animal research

Animal research has paved the way for nearly every medical advance of the last century. It led to the development of vaccines to prevent polio, measles and rubella; Penicillin to treat bacterial infections, and insulin to treat diabetes. It has led to therapies for cancer, heart disease and HIV/AIDS, and surgical treatments for children and adults. It continues to be a key force in advances in understanding cancer, heart disease, inflammatory diseases, chronic pain and such neurodegenerative diseases as Alzheimer's disease and Parkinson's disease.

Many of the studies conducted by UCSF researchers, and the medical advances they produce would be impossible without the use of animals. More than 99% of the animal studies conducted at UCSF are carried out in mice and rats and zebra fish, but others are carried out in such animals as rabbits, sheep, cats, and primates. The following is a sample of UCSF advances in medicine and science that were resulting from animal studies:

Children – After identifying the composition of the substance that coats the interior of lungs and allows them to expand and contract, a UCSF researcher spent three decades studying the lungs of dogs, rabbits, cows and other animals to produce an artificial form of the substance called surfactant. The discovery of artificial surfactant now saves the lives of tens of thousands of premature infants every year who are born without the ability to produce the substance.

HIV – Working with a mouse model developed ten years ago by a UCSF scientist, AIDS researchers test new antiviral drugs and explore the mechanisms of HIV. In developing the mouse model, researchers inserted a human-like blood-forming system into the animals that acts like a human immune system for the purpose of testing drugs or studying disease mechanisms.

Heart – UCSF heart researchers pioneered the development of catheter ablation techniques that cure heart rhythm disorders. Catheter ablation makes it possible to treat many common disorders by threading a tiny catheter through a vein and into the heart and using a pin prick of heat to disconnect a faulty electrical circuit. Before UCSF researchers perfected the technique with studies using dogs and other animals, open heart surgery offered the only way to treat the disorders in many cases.

Cancer – Studies on chickens and rodents in the 1970s enabled UCSF scientists to discover that cancer is caused by normal genes gone awry. The discovery, which led to the UCSF scientists being awarded the 1989 Nobel Prize in Physiology or Medicine, laid the foundation for whole field of study into the genetic basis of cancer.

Prion diseases – Studies in rodents in the 1980s allowed UCSF scientists to determine that several rare neurodegenerative diseases in animals and humans are caused by an infectious protein. The discovery, which led to a UCSF scientist receiving the 1997 Nobel Prize in Physiology or Medicine, has led to new insights into more common neurodegenerative diseases that involve protein misprocessing, including Alzheimer’s disease, Parkinson’s disease and amyotrophic lateral sclerosis.

The brain’s plasticity – UCSF researchers exploring fundamental processes, such as the way in which the brain’s neurons communicate to form connections during early development, rely on rodents, cats, ferrets and primates. Their studies helped pioneer the understanding of the brain’s “plasticity,” or capacity for change. Their ongoing research, aimed at taking advantage of this plasticity, could lead to treatments for such conditions as cerebral palsy, stroke and spinal cord injury.