Fostering a Culture of Collaboration in Lab Animal Science: A Researcher’s Perspective on Problems, Sources and Solutions

AstraZeneca in vivo Community
Culture of Care Week
November 14, 2023 | Waltham, MA
Preston Van Hooser

- Review Scientist & Compliance Manager, OAW
- Founder & Co-Chair D2C
- Since 2016
- Work with the UW to identify resource priorities and support for the lab animal science community.
Agenda

• Brief overview
  - What is CF?
• Roles & triggers of CF
• Problems, sources & solutions (AT focus)
• Discussion
What is Compassion Fatigue in the Laboratory Animal Science Community?

In an animal care setting, Compassion Fatigue can be a combination of physical, emotional and psychological depletion associated with working and caring for animals and their well-being in a captive environment.

*It’s the negative aspect of our work. It may be related to providing care, working with colleagues, beliefs about self, system failure, burnout and/or any work-related trauma.*
**Intrusive**
- Intrusive thoughts and images
- Obsessive desire to help
- Inability to let go of work
- Feelings of inadequacy

**Arousal**
- Increase Anxiety
- Increased frustration and anger
- Sleep disturbances
- Physical ailments

**Avoidance**
- Apathy
- Decreased energy
- Loss of sense of competence
- Self medication or addiction
Compassion Fatigue Trajectory

Zealot Phase → Irritability Phase → Withdrawal Phase

Pathology ← Zombie Phase

Jan Spilman, MEd, RCC
Transformation

• Pathology & Victimization
  – Overwhelmed
  – Somatic Illness
  – Suicide*
  – Leave the profession

• Maturation & Renewal
  – Resilience
  – Transformation

We All (can or may) Experience It!

Not only do the individuals that work directly with the animals, but IACUC members, administrative support staff, vendors and facilities services personnel may indirectly experience compassion fatigue.

We don’t get compassion fatigue because we are weak, can’t handle the work, aren’t “cut out” for it, etc. We get compassion fatigue because we care, deeply. And we ignore our own needs.
In the mid-1990’s

- When I started to work in the field of laboratory animal science, I was overwhelmed by emotions.
- Nobody told me about the feelings of
  - Guilt...
  - Sadness...
  - Regrets...

And nobody told me (or warned me) how difficult it would be to talk about my work/research.
Rapid restoration of visual pigment and function with oral retinoid in a mouse model of childhood blindness

J. Preston Van Hooser, Tomas S. Aleman, Yu-Guang Hsu, and Krysztof Palczewski  Authors Info & Affiliations
June 27, 2000 | 97 (15) 8623-8628 | https://doi.org/10.1073/pnas.150232697

Abstract

Mutations in the retinal pigment epithelium gene encoding RPE65 are a cause of the incurable early-onset recessive human retinal degenerations known as Leber congenital amaurosis. Rpe65-deficient mice, a model of Leber congenital amaurosis, have no rod photopigment and severely impaired rod physiology. We analyzed retinoid flow in this model and then intervened by using oral 9-cis-retinal, attempting to bypass the biochemical block caused by the genetic abnormality. Within 48 h, there was formation of rod photopigment and dramatic improvement in rod physiology, thus demonstrating that mechanism-based pharmacological intervention has the potential to restore vision in otherwise incurable genetic retinal degenerations.
Cirrus BioSystems | Executive Summary

Cirrus BioSystems, an innovator of tools and technologies for the modern research lab, is soliciting offers to acquire the company or distribute its patented Specific Pathogen Free (SPF) Misting Station technology.

The summary below outlines key Cirrus BioSystems facts.

The Cage Disinfection Problem

Every day in thousand laboratories around the world, techs, cons, and biologs work to keep the cages sterile. The current process is time consuming and labor intensive.

Cirrus BioSystems' Misting Station

Patented SLASH technology provides significant benefits:

- **Time Savings.** The Misting Station disinfects 20 lab cages in the average time it takes to manually disinfect a single cage.
- **Coverage Consistency.** Human error and fatigue mechanized spray pattern is applied to all cage surfaces.
- **Occupational Health.** The Misting Station enhances improved ergonomics, reduced overspray, reduced respiratory stress injuries.
Dear Preston,

We are following up on your request that our firm defend you in PETA’s lawsuit against the University and you regarding alleged violations of the Open Public Meetings Act. We have prepared the attached engagement letter stating the terms and conditions of our representation of you. Please read this letter carefully and, if you agree to its terms and conditions, respond with an email stating “I agree” or something similar. If you have questions about the letter, please contact me to schedule a telephone call with [redacted].

As stated in the letter, we must prepare an answer to PETA’s amended complaint responding to allegations sentence by sentence. A copy of the amended complaint is attached for your convenience. Please review the allegations, paying particular attention to the allegations regarding you, and let us know if any are inaccurate. To assist us in submitting the answer on time, please provide your feedback by February 21.

Thank you in advance for your assistance with this case, we look forward to working with you.
Scene at UW are trying to change this. A small group of volunteers has created a compassion fatigue outreach program at the school—the first and largest of its kind—gathering data from those affected, trying new approaches to combat the problem, and hoping to spread the word. “It’s time we started taking care of each other better,” says L Preston Van Hooser, the program’s founder and co-chair. “We want people to know they’re not alone.”

Yet it’s uncertain whether similar programs will gain steam elsewhere. It’s also unclear whether their approaches will help. Many of the strategies that benefit others who suffer compassion fatigue may not work for the lab animal community—a profession ripe with unique triggers and challenges. Someone has to do something, however, Van Hooser says. “If we don’t try, we won’t survive.”

SUFFERING IN SILENCE

Caring for research animals can take a severe mental toll. Is anyone listening?

9 MAR 2023 • 8:00 AM ET • BY DAVID GRIMM
### Laboratory Animal Professional Roles and Triggers of CF

<table>
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<tr>
<th>Professional Role</th>
<th>Triggers of CF</th>
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| **Animal Caregivers** | • Negative media  
• Animal Rights Activists  
• Long hours  
• Manual labor  
• Hazardous conditions  
• Isolation  
• Euthanasia  
• Observed morbidity and mortality  
• May develop animal allergies  
• Self-blame  
• Sadness over the loss of a particular animal  
• Nothing to show for work  
• Hard to talk about work |
| **Trainers/Training Staff** | • Volume of animals euthanized for training purposes  
• Workload  
• Lack of discussion/support  
• Mistakes (trainees)  
• Failed euthanasia  
• No formal program to help prepare newcomers or employees on managing CF  
• Hard to talk about work |
| **Research Faculty and Staff** | • Long hours  
• Regularly witness or induce disease in animals  
• Euthanasia  
• Self-blame  
• Isolation  
• No one to talk to  
• May develop animal allergies  
• Desensitization  
• Targeted by animal rights activists  
• Hard to talk about work |
| **IACUC Members and Administrative Support Staff** | • Protocol Reviews  
• Protocol/Grant Congruency Reviews  
• Post-Approval Monitoring  
• Animal Numbers  
• Program Size/Complexity  
• System Failure  
• Ethical Decisions  
• Misperceptions  
• Non-conforming Incidents/Non-compliance  
• Hard to talk about work |
Possible Results of CF

- Belief that no one is going to listen/care
- Attitude that nothing will change
- Low morale
- Poor attendance
- High job turnover
- Poor job performance
- Callous or uncaring attitude
- Belief that the work is not of value
- Nothing to show for it
- Unexpected research outcomes
- Negative Media/Animal Rights Activism
- Desensitization
It Affects the Entire System

- Research Staff
- Lab staff, student helpers, and volunteers
- Veterinary Staff
- Trainers
- Husbandry Staff
- IACUC, AUTS, OH&S, EH&S, Animal Purchasing
- Building Management
- Facility Services
- Vendors
- Professional Transportation Services
- Government/Company

Research Animals
- Numerous interactions throughout its life in a laboratory
- 100’s of people involved in direct interaction and/or oversight of the animals
It is important

To provide Lab Animal Professionals (LAPs) with proper training, guidance, and care because this will also have an effect on the animals.
Typical LAP Employee Training

- Bites, scratches, kicks, physical trauma
- Ergonomics, noise
- Zoonoses, allergens, blood-borne pathogens
- Caustic, infectious, radioactive, toxic agents
- Sharps, hot surfaces, physical hazards
- Public safety, facility and computer security
- Disaster plans, fire, flood, bomb threat
- Harassment, discrimination, whistleblower
Typical Animal Use Training Courses (Online)

• Essentials for UW IACUC Members
• Animal Use Laws & Regulations Training
• Rodent User Course
• Non-Rodent User Course
• Working with Mice
• Working with Rats
• Introduction to Rodent Surgery
• Introduction to Surgery (Non-Rodent, USDA-Covered Animals)
Animal Use Training at UW (In-person)

- Mouse Hands-on Lab
- Rat Hands-on Lab
- Hands-on Training for Species other than Mice and Rats
- Certification*
- Lab-Managed Animal Care and Records
- Lab-Managed Sick Rodent Recognition
- Lab-Managed Animal Care and Records: Aquatic Animals
- Surgery Lab Part IA
- Surgery Lab Part IB
- Surgery Lab Part II
- Surgery Certification/Anesthesia Certification
- 6th Floor Facility Orientation
- 6th Floor Facility Behavior Room Orientation
- T-wing Facility Orientation
- K-wing Facility Orientation
- Animal Research and Care Facility (ARCF) Orientation
- Foege Facility Orientation
- Harborview (HR&T) Facility Orientation
- South Lake Union (SLU) Brotman Facility Orientation
- South Lake Union (SLU) 3.1 Facility Orientation
- Guthrie Facility Orientation
- Roosevelt Facility Orientation
- CHDD Facility Orientation
- North Lake Diesel Facility Orientation
- ABSL2 Room Orientation
- ABSL3 Room Orientation
- Gnotobiotic Animal Core (GNAC) Orientation

- Mental health training on emotional involvement?
Stop thinking too much, it's alright not to know the answers. They will come to you when you least expect it.
UW D2C Program Mission Statement

Assist all members of the research team to recognize compassion fatigue and raise awareness, provide tools, strategies and resources for managing human emotions in working with and caring for laboratory animals.
Problems

- RATs
- Not heard
- Not valued
- Not appreciated
- *Nothing to show for work*
- No mental health training on emotional involvement
- Low public image of animal research
- Stigmatization as ‘dirty’ work
- Low social support and poor internal communication culture
- Areas of conflict in daily work
- Lack of education and supportive environments to cope with emotional stress in the workplace.
**Institution**
- Not acknowledged
- Nothing to show for work
- Do not talk about work

**Public**
- Negative media and publicity
- Judgmental
- Uneducated
- Hard to talk about work

**You**
- Hard to talk about work
- **TOLD** *not* to talk about your work

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**Department**
- Limited educational opportunities
- Not valued

**Management**
- Understaffed
- "Just get it done"

**Research Group**
- Endpoints unknown
- Not informed of research
- Not seen and not heard

**Regulatory**
- Not seen
- No regulatory representation
Inclusion

Recognition

Value

Opportunity

Slide courtesy of: Holly Nguyen, Director, Pre-Clinical Services, GU Cancer Research, Department of Urology, SOM Co-Chair, Dare 2 Care (D2C): Compassion in Science Committee
Study endpoint notifications

Euthanasia Date: ____________

Research staff – If you know your animal is approaching their endpoint, please mark the date with a wet or dry erase pen and place this card behind the AOPS card. This will help husbandry staff do their jobs more efficiently and give them an opportunity to say goodbye. Your participation is appreciated.

Communication

Pre-endpoint and post-endpoint email notifications acknowledging high level of humane care and the greater purpose the animal served.

Slide courtesy of: Holly Nguyen, Director, Pre-Clinical Services, GU Cancer Research, Department of Urology, SOM Co-Chair, Dare 2 Care (D2C): Compassion in Science Committee
IN RECOGNITION TO ALL RESEARCH ANIMALS AND THE LABORATORY ANIMAL SCIENCE COMMUNITY WHO HELP ADVANCE HUMAN AND ANIMAL HEALTH
DARE 2 CARE: COMPASSION IN SCIENCE
AUGUST 23, 2023

Slide courtesy of: Holly Nguyen, Director, Pre-Clinical Services, GU Cancer Research, Department of Urology, SOM Co-Chair, Dare 2 Care (D2C): Compassion in Science Committee
Recognition

Slide courtesy of: Holly Nguyen, Director, Pre-Clinical Services, GU Cancer Research, Department of Urology, SOM Co-Chair, Dare 2 Care (D2C): Compassion in Science Committee
Recognition

THE PROSTATE CANCER RAPID AUTOPSY AND DEVELOPMENT OF PATIENT-DERIVED XENOGRAFT MODELS
Nguyen HM, Morrissey C, Corey E
Department of Urology, University of Washington; Seattle, WA

INTRODUCTION

- Prostate cancer (PCa) is the most common cancer diagnosed in men and kills 27,210 males in 2017 in the United States.
- Despite advances in imaging and therapy, prognosis, genetic alterations, gene expression, and potential therapeutic targets are not well understood.
- With continued advances in understanding of PCA, novel therapeutic approaches can be developed for patients with advanced prostate cancer.
- The advent of clinical trials for advanced PCA in the United States has not generated meaningful results.
- Multiple small studies have provided mixed results.
- To address these limitations, we have developed the LuCaP PDX model to expand our understanding of the diversity of the disease to inform novel therapeutic approaches.

OBJECTIVES

- Rapid Autopsy Program
  - To collect PCA patient pairs (primary, recurrent and metastatic) for rapid autopsy.
- LuCaP PDX Series
  - To establish and characterize PDXs of advanced PCa.

MATERIALS AND METHODS

- Rapid Autopsy Program
  - 2016-2018: 154 rapid autopsy performed
  - 3-5 patient pairs per PCa genetic profile
- LuCaP PDX Series
  - primary or recurrent PCA samples from patients with recurrent disease were implanted in the NOD/SCID mice.

ACKNOWLEDGEMENTS

These studies have been funded by the Prostate Cancer Foundation (PCF). The Richard M. Lucas Foundation, NIH PO1 (P55CA718), and Movember.

With great appreciation we acknowledge the patients and their families for their participation in the UW Rapid Autopsy Program, the animals who have been sacrificed to make these breakthroughs to alleviate the suffering and death associated with prostate cancer for fathers, sons, brothers, and husbands around the world, as well as the exceptional daily care of these animals provided by the Animal Caretakers.
Molecular profiling stratifies diverse phenotypes of treatment-refractory metastatic castration-resistant prostate cancer
Mark P. Labrecque, …, Peter S. Nelson, Colm Morrissey
Published July 30, 2019
Citation Information: J Clin Invest. 2019. https://doi.org/10.1172/JCI128212.

ACKNOWLEDGEMENTS

This work was supported by a Department of Defense Idea Development Award-Partnering-PI (W81XWH-17-1-0414; W81XWH-17-1-0415), W81XWH-15-1-0430, PC170431, the Pacific Northwest Prostate Cancer SPORE (P50CA97186), the Department of Defense Prostate Cancer Biorepository Network (W81XWH-14-2-0183), Department of Defense Prostate Cancer Clinical Trials Consortium W81XWH-15-2-0008, NCI R01 CA230617, NCI P01 CA163227, the Prostate Cancer Foundation, the AACR NextGen Transformative Cancer Research Grant, the Institute for Prostate Cancer Research, and the Richard M. LUCAS Foundation.

We would like to thank the patients who generously donated tissue that made this research possible. We would also like to thank Jennifer Conner, Michiyo Dalos, Daniel Sondheim and the Comparative Medicine Animal Caregivers for assistance with the LuCaP PDX work. Additionally, we would like to thank Paul Lange, Robert Vessella, Funda Vakar-Lopez, Martine Roudier, Xiaotun Zhang, Belinda Ngheim, Jennifer Noteboom and the rapid autopsy teams in the Urology and Pathology Departments at the University of Washington.
Recognition

Reflections

- Provide an opportunity for individuals to come together in one place to pay tribute to our research animals and each other.

- Guest speakers share their research and acknowledge the contributions provided by Laboratory Animal Professionals

- Open to all animal caregivers, research faculty and staff

Martin K. (Casey) Childers, DO, PhD
Professor
Rehabilitation Medicine
University of Washington

Paul Frase
NFL Veteran
Co-Founder, Joshua Frase Foundation

“REFLECTION”
Developing biomarkers for detecting injury severity and recovery after traumatic spinal cord injury - Animal models to translation

presented by
Dr. Zin Z. Khang, PhD
Assistant Professor
Neurological Surgery | UW Medicine
Brotman Baty Institute for Precision Medicine
Institute for Stem Cell & Regenerative Medicine

Please join us for the next “Reflection” hosted by Dare 2 Care (D2C) and the Office of Animal Welfare.

In this talk, Dr. Khang will discuss the use of different animal models with spinal cord injury to discover and test therapeutic targets as well as develop biomarkers for patients with spinal cord injury. We will also discuss the importance of animal care in balancing animal welfare and the success of scientific discoveries.

Light refreshments will be provided.
Value

Slide courtesy of: Holly Nguyen, Director, Pre-Clinical Services, GU Cancer Research, Department of Urology, SOM Co-Chair, Dare 2 Care (D2C): Compassion in Science Committee
Thanks so much for everything you do on a daily basis! We are so appreciative of your tireless efforts in making sure our animals are well taken care of. Without you, many groups around campus wouldn’t be able to do the research that has the potential to impact millions of people worldwide. Thanks for making all the difference!

Thank you to all the human and animal staff for your continuing dedication to your work for the wellbeing of all animals. Carol Cominotto is very competent and very dependable weekend animal care staff.

Many thanks for all of your hard work and dedication for caring for the animals, and for making this a great place for scientists to work at - Wash U Biomedical Sciences.

Dare 2 Care is an ongoing initiative for staff to highlight the work they do by showcasing their passions, interests, and care for animals in a safe environment. Each month, we will feature one employee’s story and include a small gift to celebrate their contributions.

We can never say enough how grateful we are for all that you do for the animals in our care. It isn’t an easy job. It requires physical strength and stamina for frequent heavy lifting and regular shifts, and the dedication to avoid painful injury like injuries and burns.

Thank you to all the animal care staff that work on our campus and the many volunteers that make this possible.

Are you interested in volunteering? Please contact your animal care staff member or email us at dare2care@wustl.edu.

Slide courtesy of: Holly Nguyen, Director, Pre-Clinical Services, GU Cancer Research, Department of Urology, SOM Co-Chair, Dare 2 Care (D2C): Compassion in Science Committee
Value
Improving break rooms was frequently requested during our Needs Assessment

“Before” and “After” video of animal caregiver breakroom with completed renovations @ https://sites.uw.edu/d2c under Special Projects page
Opportunity

IACUCs

Conferences

Committees

Classes/Workshops

Slide courtesy of: Holly Nguyen, Director, Pre-Clinical Services, GU Cancer Research, Department of Urology, SOM Co-Chair, Dare 2 Care (D2C): Compassion in Science Committee
Closing remarks
Thank you