

*"I could never do your job....
I love animals too much"*



I think you meant to say:
Thank you for your service

- ❖ *Keeping me and my loved ones healthy.*
- ❖ *Ensuring that laboratory animals are well cared for.*
- ❖ *Supporting development of new discoveries.*



Compassion Fatigue and the COVID Era: Caring for the Animal Caregiver – Occupational Health, Human-Animal Bond & Compassion Resiliency

Tuesday, March 22nd, 2022

10:00-11:00AM

California Biomedical Research Association (CBRA)



J. Preston Van Hooser

Review Scientist & Compliance Manager

Office of Animal Welfare, University of Washington

Chair, Dare 2 Care (D2C) Compassion in Science Program

Member, UW IACUC

NWABR Board Member

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Webinar Objectives

- Review the importance of identifying Compassion Fatigue in the animal research setting
- Focus on developing a compassion resiliency culture
- Provide tools and coping strategies to validate and strengthen the human-animal bond with research animals and sustain the care that is necessary for both people and research animals



Webinar Agenda

- What is Compassion Fatigue?
 - The Human-Animal Bond
- Examine Compassion Fatigue and its impact on the laboratory animal science community
 - Animal caregivers, research faculty & staff, vets, vet techs, IACUC members & administrative support staff, training staff
- Evaluate stressors that promote compassion fatigue
- Develop and implement a sustainable compassion fatigue well-being program





Compassion Fatigue and Its Impact on the Laboratory Animal Science Community



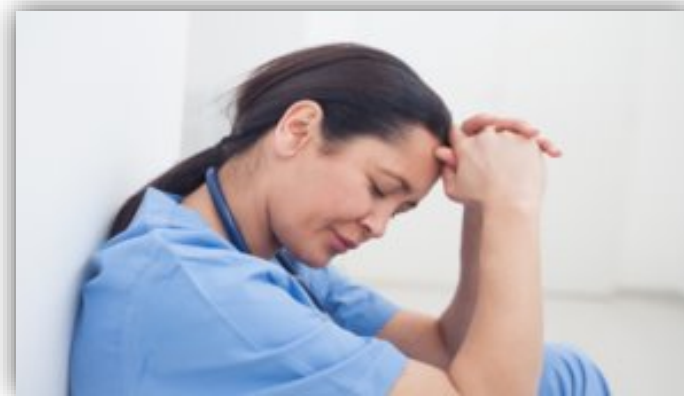
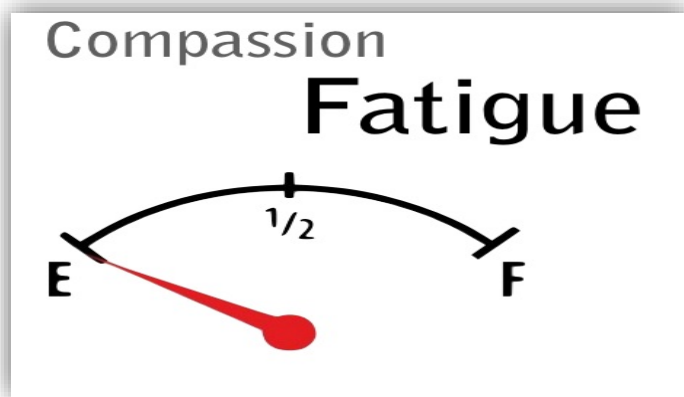
What is Compassion Fatigue (CF)?

- Compassion fatigue, put simply, happens when individuals become too physically, emotionally, and mentally exhausted due to the demands of the job.
- Compassion fatigue is synonymous with **secondary traumatic stress (STS)**, a condition characterized by a gradual lessening of [compassion](#) (sympathetic pity and concern for the sufferings or misfortunes of others) over time.



What is Compassion Fatigue?

In an animal care setting, Compassion Fatigue is 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.

Signs & Symptoms

Individual

- Depression
- Anxiety
- Apathy
- Irritability
- Sleep disturbance
- Poor self-care
- An increase in mistakes
- Diminished career enjoyment
- Substance abuse
- Problems in relationships

Organization

- Substandard level of care
- Absenteeism
- High turnover
- Lack of teamwork
- Team conflict
- Low morale
- Blaming and complaining
- Increased cynicism
- Poor quality control
- Deterioration of the mission

What are the symptoms?

WORK RELATED

- Avoidance or dread of working with certain patients
- Reduced ability to feel empathy towards patients or families
- Frequent use of sick days
- Lack of joyfulness

PHYSICAL

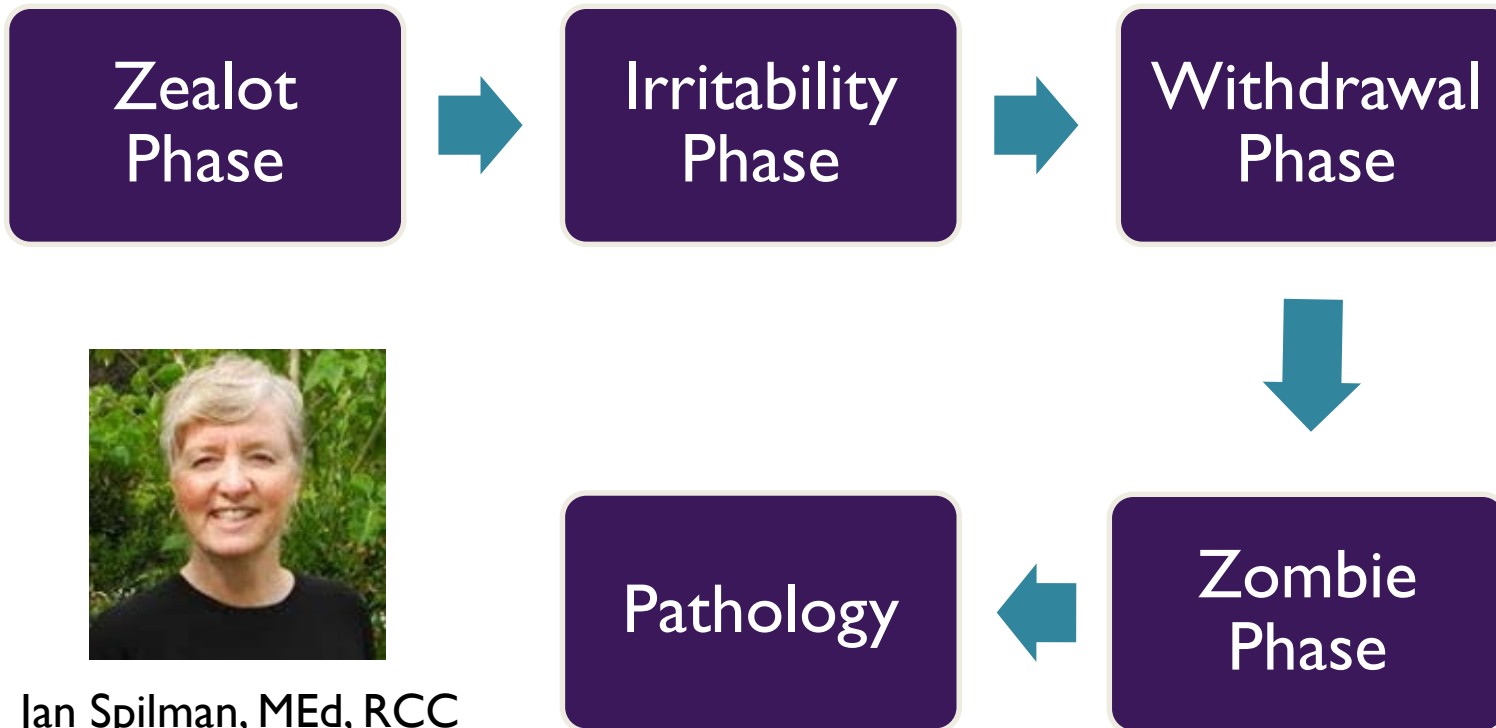
- Headaches
- Digestive problems: diarrhea, constipation, upset stomach
- Muscle tension
- Sleep disturbances: inability to sleep, insomnia, too much sleep
- Fatigue
- Cardiac symptoms: chest pain/pressure, palpitations, tachycardia (elevated heart rate)

EMOTIONAL

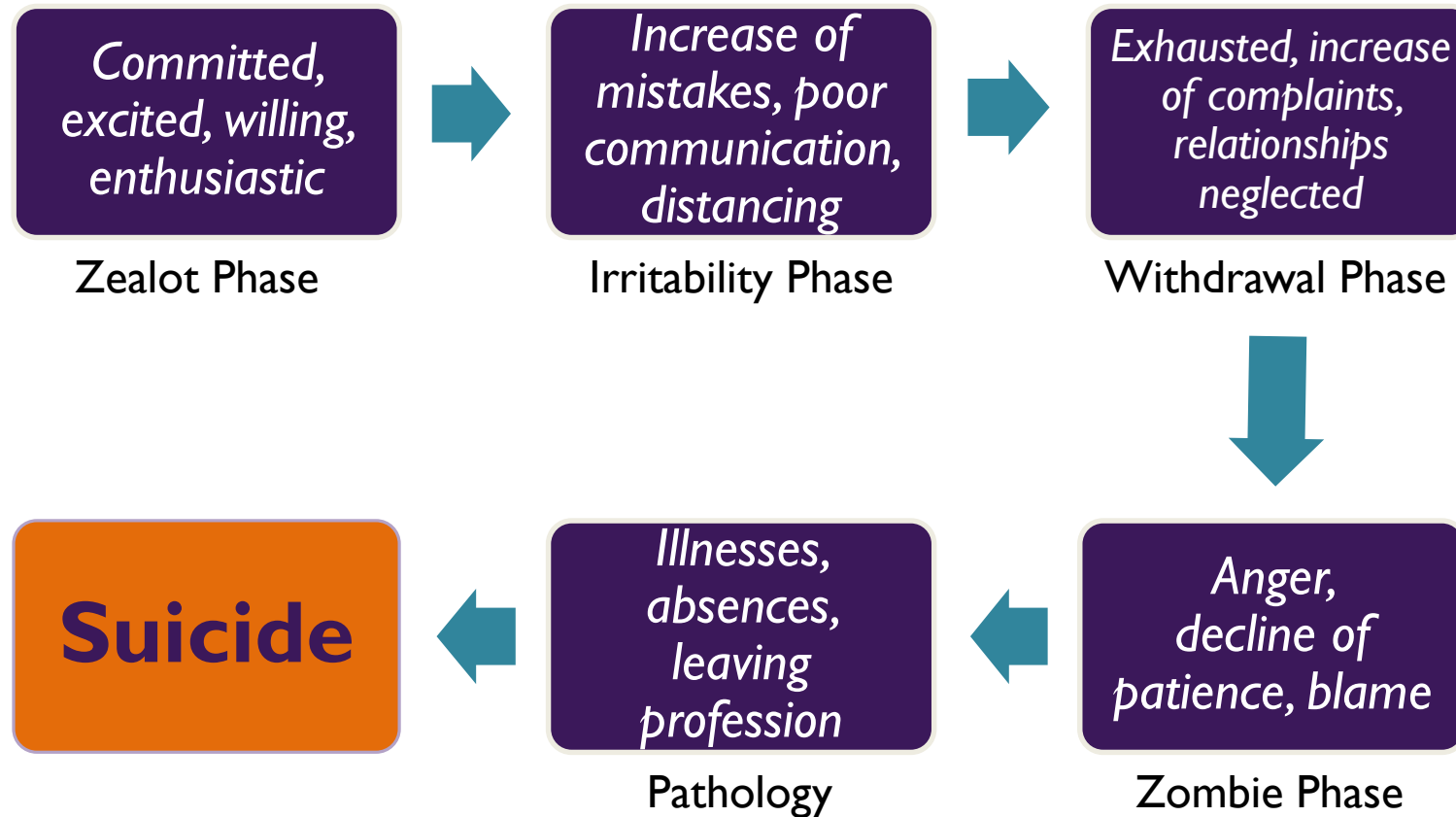
- Mood swings
- Restlessness
- Irritability
- Oversensitivity
- Anxiety
- Excessive use of substances: nicotine, alcohol, illicit drugs
- Depression
- Anger and resentment
- Loss of objectivity
- Memory issues
- Poor concentration, focus and judgment

¹⁾ List Courtesy of "Compassion Fatigue: A Nurse's Primer."

The Trajectory of Compassion Fatigue



The Trajectory of Compassion Fatigue



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.*

The Cost of Caring

“The expectation that we can be immersed in suffering and loss daily and not be touched by it is as unrealistic as expecting to be able to walk through water without getting wet.”

(Remen, 1996)



Compassion Fatigue: The Cost of Caring

Human emotions in the face of suffering animals

The human-animal bond exists in many forms. Emotions and reactions for animals are desirable characteristics in animal care and research settings. Practices of gentle handling, compassion, and patience serve to build the bond between humans and animals. The strengthening of the human-animal bond can improve animal welfare by reducing stress, enhancing a sense of safety and security, and providing more. Close contact with animals can create feelings of satisfaction and affection in those who care for the animals.

People in the field who experience compassion fatigue are at risk of burnout and decreased productivity. Compassion fatigue is a state of emotional exhaustion and a loss of empathy for others. It is a common experience for those who work in helping professions. It is a state of emotional exhaustion and a loss of empathy for others. It is a common experience for those who work in helping professions.

Compassion fatigue is a state of emotional exhaustion and a loss of empathy for others. It is a common experience for those who work in helping professions. It is a state of emotional exhaustion and a loss of empathy for others. It is a common experience for those who work in helping professions.



<https://www.aalas.org/education/educational-resources/cost-of-caring>

The Human-Lab Animal Bond

- The human-lab animal bond exists in many forms and it can improve both human and animal welfare.
- Close contact with animals can create feelings of satisfaction and affection.



“Every technician I interviewed for this study experienced some form of attachment to a laboratory animal at least once in his or her career.” ~Arnold Arluke

Human-Lab Animal Bond

- Animals depend on us: a contract
 - Food/water/housing/environment
 - Interaction
 - Enrichment
 - Humane treatment
- Animals seek out contact



Human-Lab Animal Bond

- Animals have
 - Personalities
 - Distinct attributes
 - Friendly, intelligent, courageous, amusing, quirky
 - Ability to distinguish among people
- Many are long-term
 - Close, frequent contact



We all know...

- Most research animals will be euthanized
 - Protocol needs
 - Illness
 - Unsuitable
 - Not needed



Evaluating Stressors that Promote Compassion Fatigue





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.

<https://uwkills.wordpress.com> › facilities-and-staff › iacuc

[IACUC | UW Kills Animals](#)

J. Preston Van Hooser IACUC Review Scientist, Manager of Training Operations and Compliance Officer Phone: 206-616-8417 jpvh@u.washington.edu.

Laboratory Animal Professional Roles and Triggers of CF

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

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
- 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

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 it's 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 of 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
 - 6th Floor Facility Orientation
 - 6th Floor Facility Behavior Room Orientation
 - T-wing Facility Orientation
 - K-wing Facility Orientation
 - Animal Research and Care Facility Orientation
 - Foegen 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?**

How it Affects the Workplace

- Decreased compassion
- Low quality of care
- Loss of productivity
- High job turnover
- Low morale
- Poor attendance
- Poor job performance
- Increase in errors
- Callous or uncaring attitude
- Leave the profession



Developing and Implementing a Sustainable Compassion Fatigue Well-Being Program

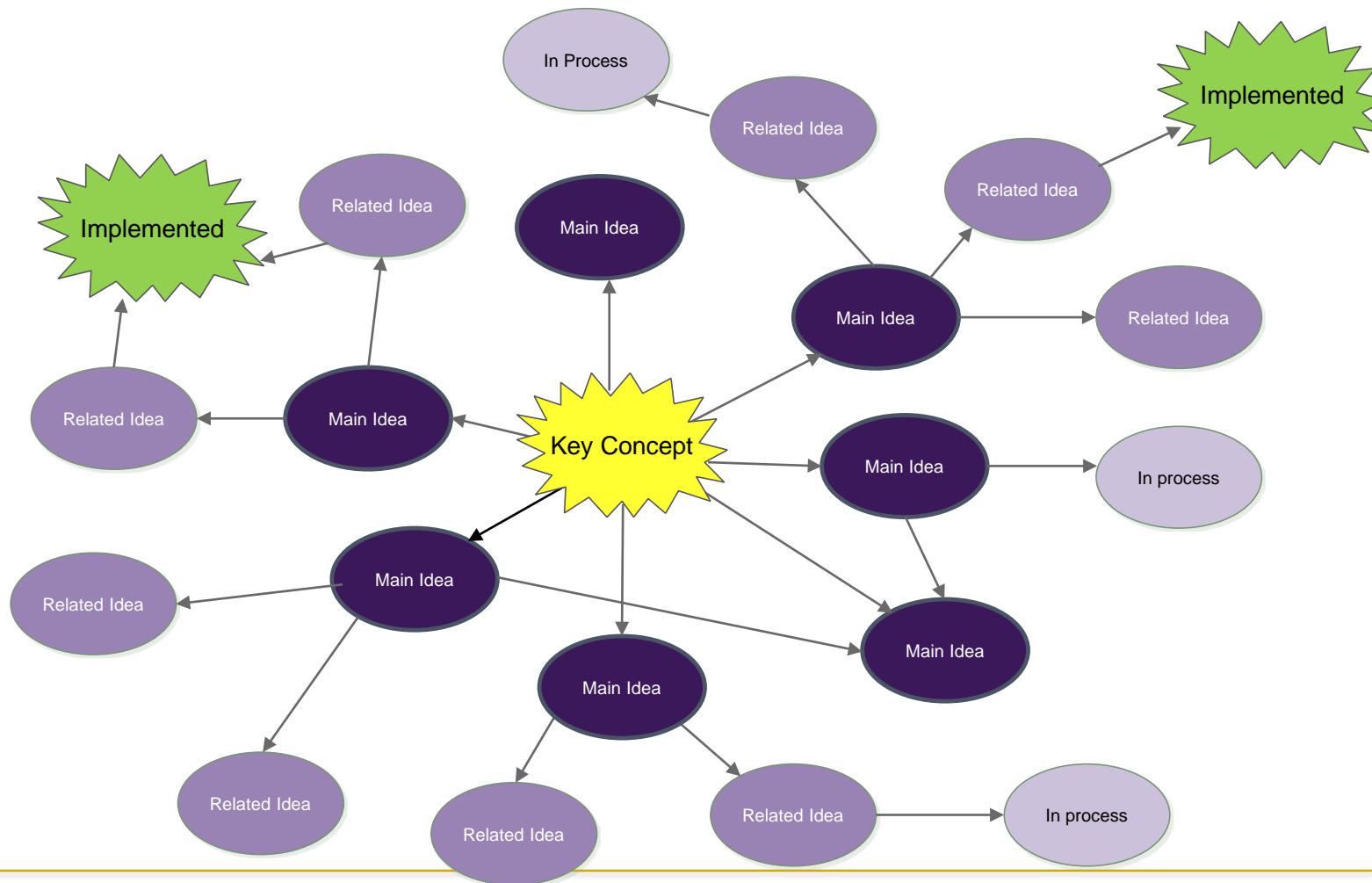


Sharing UW's Experience: How did we get here?

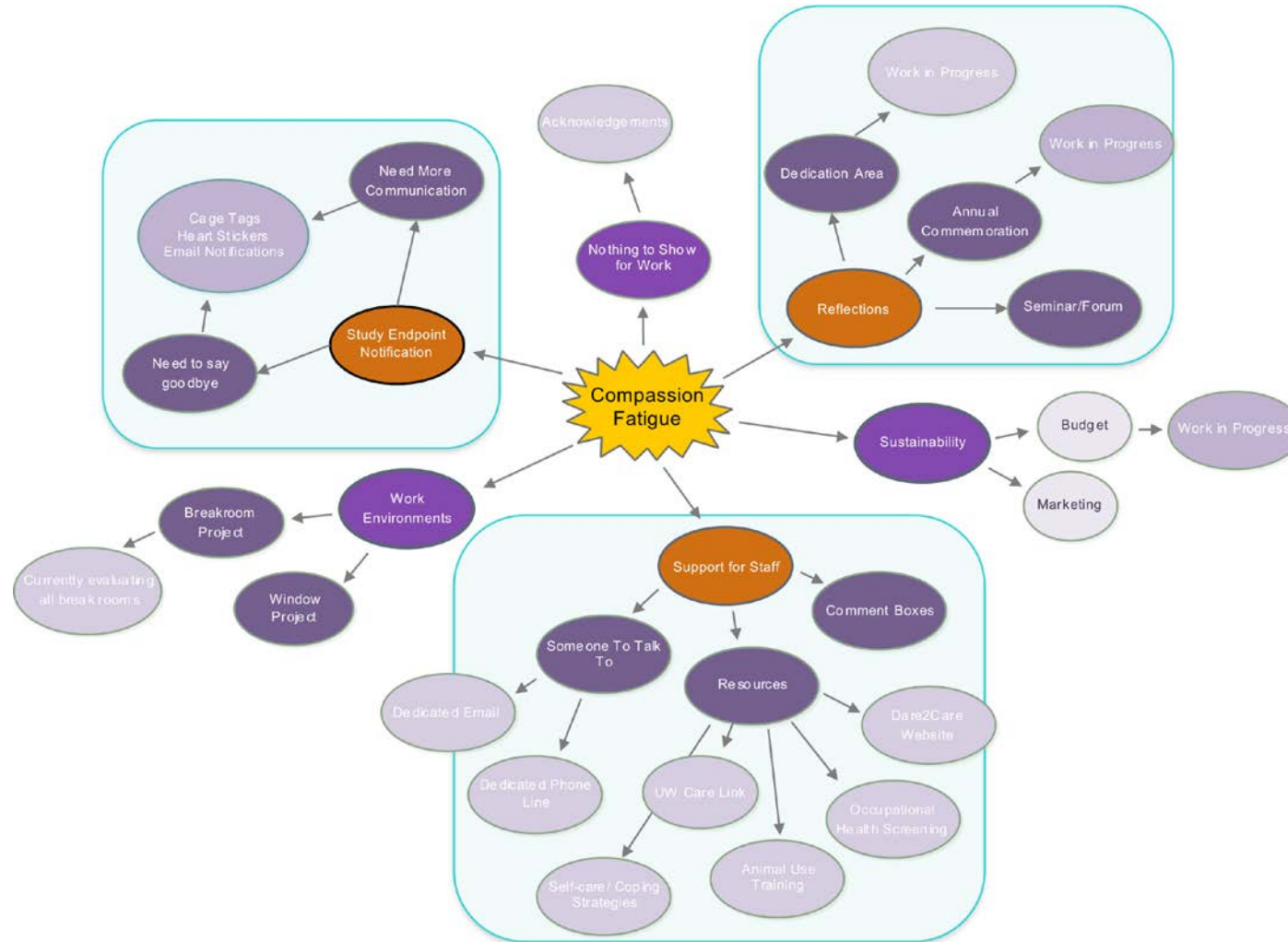
- Identify the Need
- Assess the Potential Demand
- Anneke Keizer, Founder, COPE+
 - Small company specializing in counseling services for people working with laboratory animals
- Needs Assessment (July 2016 & June 2017)
 - Interviews, one-on-one interactions, focus groups



Example Concept Map



Compassion Fatigue at UW



Defining Moment



Dare 2 Care (D2C) Compassion Fatigue Committee



Developing a Compassion Fatigue Program

Management



Those who say
it cannot be done
shouldn't interrupt
the people doing 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.



Identify Initial Target Objectives and Other Program Related Objectives



- Study Endpoint Notification
- Support for Staff
- Reflections
- Recognition (Animal Caregivers)
- Work Environments/Breakroom Enhancements (Animal Caregivers)





Study Endpoint Notification



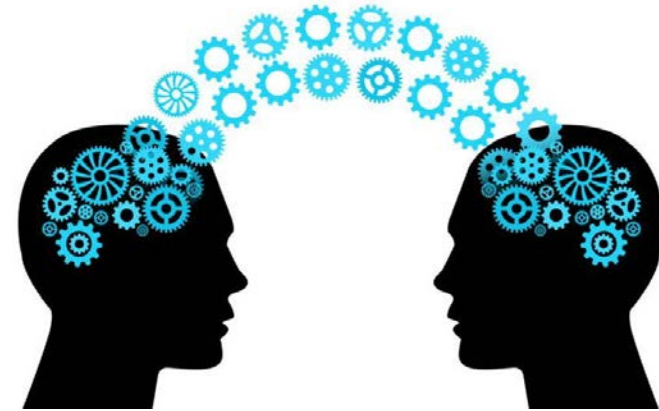
Need to Say Goodbye

- WaNPRC CF Subcommittee formed 2017
- Heart Stickers / Cage Tags
 - Heart stickers WIP at DCM Vivaria
 - Decided not to pursue at WaNPRC



Need More Communication

- E-mail Notification (NHP)
 - *Endpoint Distribution List*
 - *E-mail Templates*



Acknowledge high levels of humane care

Acknowledge the greater purpose the animal served



Endpoint Example

Hi everyone,

All animals in room ____ will reaching their endpoint soon.

Our animals are all part of a large study titled _____. We often refer to it as our ____ study.

This study's goal is to _____. As part of the study design, critical endpoint samples must be collected. The scientific knowledge gained in terminal tissue collections and analysis will further the understanding of targeting and eradicating viral reservoirs. In order to thoroughly investigate we will need to humanely euthanize the animals for terminal collections. The pathologist and research staff will carry out this important procedure.

We have worked with these 24 animals for a long time and they are certainly the most vocal, rowdiest group of monkeys we have encountered. Despite that, they have been a pleasure to work with. We have grown to love each of their individual personalities and will miss and remember them all. Endpoints will start ____ and end _____. If you would like specific endpoints for any animals please let me know.

Most everyone has had an important role in this large study. We want to thank all the people that have made this very important study successful. In particular we would like to thank the animal care staff for providing wonderful care for the animals. This is a very vocal group that loves food and treats and you can clearly tell from the animals' response that they prefer the husbandry technicians to anyone else. These animals were housed at Western and ARCF throughout their study and received excellent care. BMS did a great job ensuring the animal's behavioral needs are maintained. (They) setup the pairs which have remained stable throughout the study despite a few room changes. The clinical staff provided therapeutic support during the study and are continuing to do so in the most critical part of the study. Research support and surgery staff have also played a large role in this study. They've helped up performed ____ surgeries/tissue collections during the course of the study. All 24 animals have progressed through this intensive study and have had no major health issues. We thank the vet staff for keeping close watchful eye on them.

I would also like to make a special thanks to the Kiem lab research staff (particularly Erica and Kelvin) in conducting ethical and compassionate research for our non-human primate patients. This has been a long, difficult study and these animals are all still healthy and happy thanks to the dedication of the research staff making sure their needs are met.

If you would like please take some time to stop by the animal's cage prior to the dates listed above.

Best regards, _____ Lab

Pre-Endpoint (Research) Example

Dear colleagues,

For quite some time we have been working on the _____ study titled _____

This study investigates the interaction of _____ treatment to enhance vaccine responses against _____ infection. As part of the study design, critical endpoint samples must be collected. The scientific knowledge gained in terminal tissue collection and analysis will further the understanding on how the _____ plays important role in _____ infection. In order to thoroughly investigate this, we will need to humanely euthanize the animals for terminal collections. The pathologist and support staff will carry out this important procedure.

On behalf of the principal investigator, I would like to inform you that we have reached important study endpoints for the following animals:

(Animal #/ Date)

We want to thank all the people that have made this very important research study successful. In particular, we would like to thank the animal care staff for providing humane care for the animals, BMS for ensuring the animal's social and behavioral needs are met, clinical staff in providing therapeutic support during the study, research staff in conducting ethical and compassionate research for our non-human primate patients and pathology staff for ensuring the endpoint is humane.

If you would like, please take some time to visit the animal prior to the date listed above.

Best regards

_____ Team



Post-Endpoint (Clinical) Example

Hello all,

was humanely euthanized yesterday afternoon due to her clinical condition,

_____.

On behalf of the veterinary staff, I would like to thank the animal care staff, veterinary technicians, research support and BMS for your care and attention to this animal during her time at the center.

Thank you,

_____, Veterinarian

Information to Include at the bottom if desired:

You can find out more information about the D2C Compassion in Science program here: _____ including a dedicated phone line, as well as a list of personnel you can reach out to if you want to talk about the loss of a particular animal.



Support for Staff



Someone To Talk To



Dedicated D2C Phone Line and Email



Resources

- Dare2Care (D2C) Website
- Occupational Health (OH) Screening
- Dedication Area/Annual Commemoration
- Training
- Self-Care/Coping Strategies
- Employee Assistance Program (EAP)
- Institutional Specific Activities

UW D2C Website



DARE 2 CARE (D2C)



One of the great challenges for laboratory animal professionals is acceptance and management of the demanding emotional effects from working with animals within the research field. The term that has been coined to describe this emotional toll is Compassion Fatigue (CF).

Compassion Fatigue is a manifestation of stress that presents as emotional, physical, and spiritual exhaustion associated with chronic exposure to stressful situations when working in the challenging environment of using animals in the research field. Laboratory animal professionals are at a high risk for CF due to the daily care they provide for research animals. Symptoms of CF range from depression, anxiety, cynicism and physical ailments to isolation, absenteeism, hopelessness, substance abuse, and even suicide.

As Compassion Fatigue is a normal consequence of caring, this project of building the Dare 2 Care (D2C) Compassion in Science Program at the University of Washington has been designed to assist all members of the research team in understanding and coping with this common concern by managing the emotional challenges resulting from the care and use of laboratory animals.



NEWS AND UPDATES

- A. Preston Van Hooser will be at the MWARR Annual IACUC Conference on April 8th at 4:15 pm presenting D2C updates. Come visit DARE 2 CARE at Booth #5 for fun giveaways and to purchase our newest D2C 32 oz Nalgene bottles where 100% of proceeds are given right back to D2C!
- D2C Boxes for The Box Project are currently being placed in vivaria and other locations- all are welcome to utilize these.



Impact! October 2019

6,897 visitors | 39 countries | 491 cities

Impact! October 2021

16,754 visitors | 84 countries | 1,450 cities

<https://sites.uw.edu/d2c>



Occupational Health (OH) Screening

- Annual Health Assessment for husbandry staff / animal users administered by UW Employee Health
- One of the first institutions to implement CF assessment as part of OH screening for Laboratory Animal Professionals



University of Washington CAMPUS HEALTH SERVICES

UW Employee Health**ANIMAL CONTACT HEALTH QUESTIONNAIRE***Confidential*____ *Initial* *Periodic*

Name (Last, First, MI): Employee ID Number: Male Female
 Job Title: Box Number: Work Phone:
 Department: Supervisor/PI:
 Work location: How many years have you worked in this position:
 Email (required): Birthdate: Today's Date:

STATEMENT OF DECLINATION

IF YOU CHOOSE TO DECLINE THE MEDICAL SCREENING, SIGN BELOW AND DO NOT COMPLETE THE REST OF THE FORM.

I, _____ (*Type or print name*), decline to participate in the Occupational Health program for animal contact workers. I realize that declining could lead to unforeseen medical concerns. I also understand that I can change my mind about participating by contacting the Employee Health Center.

SIGNATURE: DATE:

**Send To: Employee Health Center, Box 354410, Office
206-685-1026 Fax 206-221-5110**

I. LABORATORY ANIMAL USE *Check all boxes that apply to your work situation.*

I am working with live animals.

I do husbandry (care of animals) and/or veterinary services.

I do not work with animals, but work in an animal area.

VI. ADDITIONAL HEALTH CONCERNS

Yes I have health or workplace concerns not covered by the questionnaire (**e.g. Compassion Fatigue**) that I feel may affect my occupational health and would like to discuss with the Employee Health provider.

Yes I have reproductive concerns that I would like to discuss with the Employee Health Provider

Yes I have answered the questions truthfully and to the best of my recollection.

VII. SIGNATURE: _____ **DATE:** _____

Dedication Area (In Progress)

- Physical tribute
- Peaceful retreat where staff can go to reflect



Annual Commemoration (In Progress)

- The entire UW community can gather
- Acknowledge contributions to biomedical research and animal welfare

Annual Commemoration / Dedication Area

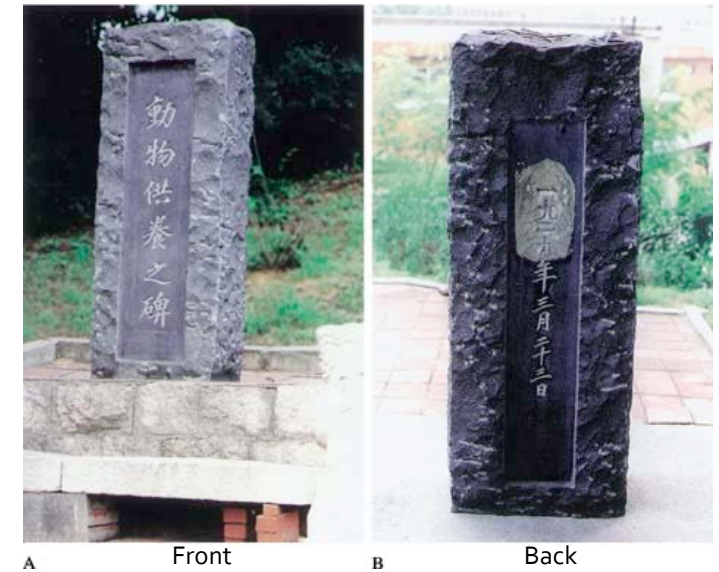


University of Rochester School of Medicine
Bronze casting, in place since the 1920's

In tribute
to research animals
whose contributions have
saved millions of human
and animal lives and
reduced suffering
worldwide.

From the animal technicians,
supervisors, managers,
veterinarians and research
scientists who care for
research animals.

Merck Research Laboratories



A Front B Back

Korean FDA, Seoul
Pagoda, site of annual ceremony

ILAR Journal V43(1) 2002, Iloff An Additional "R": Remembering the Animals

Annual Commemoration / Dedication Area



TO ACKNOWLEDGE AND REMEMBER ALL THE ANIMALS THAT HAVE BEEN USED IN OUR RESEARCH FACILITY, FOR THEY HAVE CONTRIBUTED TO A BETTER UNDERSTANDING OF SCIENCE AND ENABLED MEDICAL ADVANCEMENT.



AND TO ACKNOWLEDGE ALL RESEARCH PERSONNEL WHO HUMANELY CARE AND USE ANIMALS; YOUR DEDICATION TO ANIMAL WELFARE AND TO SCIENCE IS ADMIRABLE.



Hospital for Special Surgery, Manhattan

Animal Use Training (Online)

UNIVERSITY OF WASHINGTON

Animal Use Training Program

- Home
- Contact Us
- Training Requirements
- Online Courses
- In Person Courses
- FAQs
- Forms
- Links
- Courses Material

University of Washington: Animal Use Laws and Regulations Training: Compassion Fatigue

Other Lessons:

▼

What is Compassion Fatigue?

Compassion fatigue is a form of burnout that manifests as emotional, physical, psychological and/or spiritual exhaustion. It can result when we are repeatedly exposed to emotionally challenging and stressful situations that call for our empathy and compassion towards another person or animal.

Laboratory Animal Care Professionals are at high risk for compassion fatigue due to the fact that they work with and care for the animals, and their well-being, on a daily basis for weeks, months and sometimes years, and then ultimately having to euthanize them.

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University of Washington: Animal Use Laws and Regulations Training: Compassion Fatigue

Other Lessons:

▼

Dare 2 Care

The UW's Compassion Fatigue Committee is rolling-out a new program, Dare 2 Care (D2C), to introduce the topic of Compassion Fatigue and identify symptoms and recognize, raise awareness and provide tools and strategies to help laboratory animal professionals cope and manage the emotional challenges of lab animal research. While compassion fatigue is a normal consequence of caring, we can learn ways to become more resilient and avoid becoming overwhelmed, shutdown or leaving the work/profession altogether. For more information, please visit the [UW Compassion Fatigue Program website](#).

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Self-Care Strategies



Rita & Zombie, Kayaking



Christina, volunteering
One Health in Malaysia



Holly, climbing Mt. Baker



Yuki, hiking to Camp Muir



Sara & Amber, at dog agility class



Non-negotiables of Self-Care

Eat Well



Exercise and Fresh Air

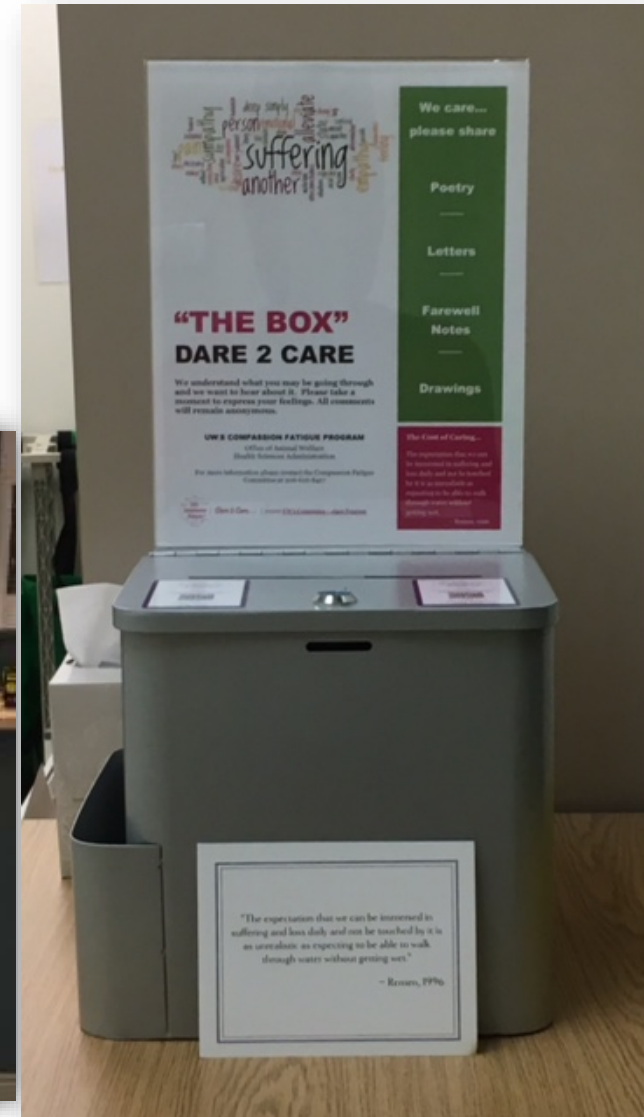
Rest



Connect with others

"The Box Project"

An innovative way to encourage staff to express themselves anonymously



The Art of Compassion



“He is always happy and always rolls onto his side to have his belly rubbed... He always cheers me up if I’m having a bad day.”

The Art of Compassion

"When I first got the study, Bert was the only one that truly stood out. He was the only monkey who would interact with anyone in the room by touching our gloves and taking prima treats out of our hands. He was the sweetest monkey in the cage, but as soon as he was pulled out he made sure everyone knew he was the boss. So naturally, we would all cling to him because he showed his personality right away. Isaac, on the other hand, was extremely submissive and timid to any human interaction. At the transfer, Isaac was placed with an aggressive, dominant mate who took advantage of him. They were eventually separated from each other with hopes of Isaac finding a friendlier mate at the random. As the study went from source to target, Bert and Isaac were paired together. Luckily, Bert took Isaac by the hand and showed him that human interaction isn't so bad. Isaac slowly progressed and began to touch gloves, gowns, and take treats. Of course, Bert advanced quickly from gloves and treats to gowns, face shields, and getting very excited to see any human. He has a tendency to grab the bottom of the cage with all fours and shake like a mad man when he is not getting any attention. Isaac would get on all fours and tilt his head down and just stare at you with his big eyes surrounded by his very large eyebrow. From their first day together, the two became best buds and would be lost without each other. Its unfortunate that my study is coming to an end, but Bert and Isaac will stay near and dear to our hearts."





Reflections



Reflections

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



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



Paul Frase
 NFL Veteran
 Co-Founder, Joshua Frase Foundation

- Guest speakers share their research and acknowledge the contributions provided by Laboratory Animal Professionals
- Open to all animal caregivers, research faculty and staff



“REFLECTIONS” DARE 2 CARE

**A World Without Biomedical Research?
 Why Transparency is Vitally Important!**



presented by
Ken Gordon
 Executive Director
 Northwest Association for
 Biomedical Research

Please join us for the next “Reflections” hosted by the Dare 2 Care (D2C) Compassion in Science Committee and the Office of Animal Welfare (OAW). The purpose of this reflection is to provide an opportunity for individuals to come together in one place to pay tribute to our research animals and each other, and better understand the benefits of the research at our institution. We are honored to have Ken Gordon, Executive Director of MWABR, as our invited guest speaker. All are welcome!



light refreshments will be provided

<https://sites.uw.edu/d2c>



DATE:
 Tuesday,
 October 22, 2019

TIME:
 1:30 - 3:00 PM

LOCATION:
 Turner Conference
 Room
 HSB E-202

CONTACT:
 (206) 616-2386

The Cost of Caring

The expectation that we can be immersed in suffering and loss daily and not be touched by it is as unrealistic as expecting to be able to walk through water without getting wet.

- Ramen, 1996



Recognition (Animal Caregivers)





THE PROSTATE CANCER RAPID AUTOPSY AND DEVELOPMENT OF PATIENT-DERIVED XENOGRRAFT MODELS

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INTRODUCTION

- Prostate cancer (PCa) is the second most common malignancy diagnosed in men and led to almost 27,000 deaths in 2017 within the United States.
- PCa is widely heterogeneous with differences in mutations/genomic alterations, gene expression, sites of metastases, rate of proliferation, survival pathways, and therapeutic escape mechanisms.
- A significant limitation in the understanding of PCa, and evaluating novel therapeutic strategies is the lack of pre-clinical models that closely replicate the diversity of the disease seen in man.
- To overcome this limitation, we have established over 40 advanced PCa Patient-Derived Xenograft (PDX) lines.

OBJECTIVES

- Rapid Autopsy Program**
 - To collect human PCa specimens (primary prostate, visceral and metastases) for investigation on advanced PCa biology.

- LuCaP PDX Series**
 - To establish and characterize PDXs of advanced PCa.

The emergence of new drug resistance is associated with altered phenotypes. Continuous collection of tissues is important to capture the biology underlying treatment responses and resistance.

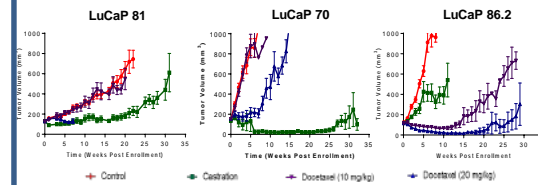
PDXs provide a valuable resource to generate clinically relevant data with translational potential. PDXs demonstrate molecular features resembling patient tumors, tumor heterogeneity observed in patients, preserve tumor-microenvironment architecture, and provide clinically-relevant treatment responses.

LuCaP PDX CHARACTERISTICS

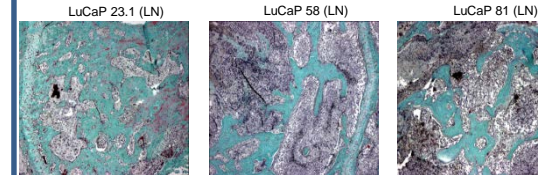
LuCaP	Tissue Type	AR	PSA	Response to CX	LuCaP	Tissue Type	AR	PSA	Response to CX
23.1	LN	WT	High	HR	86.2	Bladder	WT	Mod.	NR
23.1CR (EXP)	WT	Mod.	NA	86.2CR*	(EXP)	WT	Mod.	NA	NA
23.12	Liver	WT	High	HR	92	LN	WT	Mod.	HR
35	LN	WT	Low	HR	93*	TURP	NA	NA	NR
35CR (EXP)	WT	Low	NA	96	TURP	WT	Mod.	HR	HR
49*	Omental Fat	NA	NA	NR	96CR (EXP)	WT	Mod.	NA	NA
58	LN	WT	Low	NR	105	Rib	WT	Mod.	IR
70	Liver	WT	Mod.	HR	105CR** (EXP)	WT	Mod.	NA	NA
70CR (EXP)	WT	Mod.	NA	136	Acites	WT	Low	IR	IR
73	Prostate	MUT	Mod.	HR	136CR (EXP)	WT	Low	NA	NA
73CR (EXP)	MUT	Mod.	NA	141	TURP	WT	Low	HR	HR
77	Femur	WT	Mod	IR	145.1*	Liver	NA	NA	NR
77CR** (EXP)	WT	Mod	NA	145.2*	LN	NA	NA	NR	NR
78	LN	MUT	Mod	HR	147	Liver	MUT	Low	NR
81	LN	WT	High	NR	147CR** (EXP)	MUT	Low	NA	NA
81CR** (EXP)	WT	High	NA	167	Liver	ND	Mod.	HR	HR

Characteristics	AS vs CR pairs	Mutated AR	AR v5.6.7
Number of Models	11	2	1
Characteristics	TMPRSS2/ERG	PTEN-negative	Neuroendocrine
Number of Models	4	13	4
Characteristics	RB Deletion	Osteoblastic	DOC resistant
Number of Models	2	7	6

HETEROGENEITY OF RESPONSES



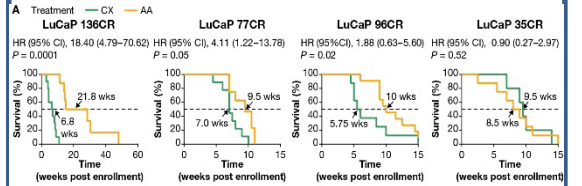
OSTEOBLASTIC BONE RESPONSES



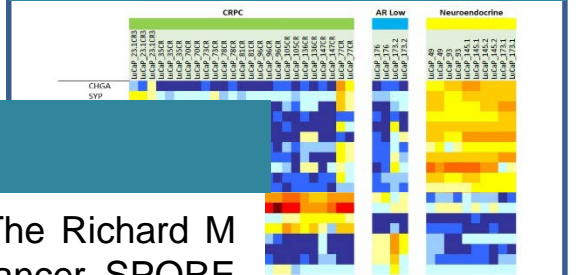
CLINICALLY RELEVANT TO EVOLVING PHENOTYPE

New treatments and development of resistance results in alterations of tumor genotypes/phenotypes. In order to understand mechanisms of resistance and develop new therapies for the resistant tumors, PDXs representing these new tumor phenotypes are urgently needed.

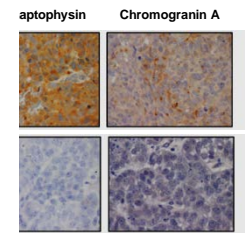
RESISTANCE TO SECONDARY ANDROGEN THERAPY



NEUROENDOCRINE VS ADENOCARCINOMA



D AR- PDX MODELS



	PSA	CHGA	SYP	AR-NE+	AR-NE-
13-084	Positive	Negative	Negative	Positive	Negative
173.2	Positive	Negative	Negative	Positive	Negative

ACKNOWLEDGEMENTS

These studies have been funded by the Prostate Cancer Foundation (PCF), The Richard M Lucas Foundation, NIH PO1 (PO1-CA163227), Pacific Northwest Prostate Cancer SPORE (P50-CA097186), the Prostate Cancer Biorepository Network (PCBN), 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.

MATERIALS AND METHODS

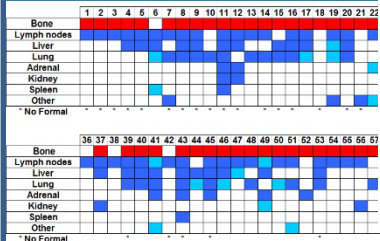
Rapid Autopsy Program

- 1996-2018: 196 rapid autopsies performed.
- Metastatic tissue is acquired within 4-8 hours of death.
- 16 different bone sites collected in addition to grossly evident metastases.

LuCaP PDX Series

- Samples of advanced PCa obtained from primary prostate and metastases collected at rapid autopsy are implanted into immunodeficient mice to establish PDXs.
- Established PDXs are propagated in vivo.
- Genomic, transcriptomic, and STR profiles are generated.
- Responses to novel therapies are studied.
- Frozen tumors, paraffin blocks, and TMA containing 40 LuCaP PDX lines.

RAPID AUTOPSY—SITE OF METASTASIS



ASSESSMENT OF BONE RESPONSE IN CRPC

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35							
Blastic	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Mixed	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Lytic	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
No change/Penic	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

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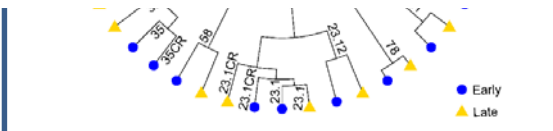


Figure 1. To determine if drift has occurred in the LuCaP xenografts, we compared gene expression analysis of early and late passages of 24 xenografts. From a cluster analysis of 1000 randomly assigned genes, all 24 LuCaP xenografts clustered with their parental tumor. We determined that while some changes were observed, a limited amount of drift had occurred in the LuCaP xenograft lines. Previous limited studies showed clustering of xenografts with the clinical tumors of origin.

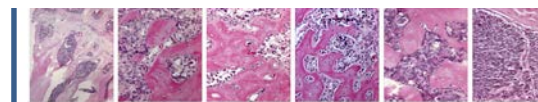


Figure 2. Radiographs and H&E stains from LuCaP xenografts injected and grown in the tibia of SCID male mice. *: Osteoblastic; **: Mixed. Additional lines showing an osteoblastic response include LuCaPs 23.1, 23.1CR, 93 and 136.

[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

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ACKNOWLEDGEMENTS

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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 Nghiem, Jennifer Noteboom and the rapid autopsy teams in the Urology and Pathology Departments at the University of Washington.

Work Environments/Breakroom Enhancements (Animal Caregivers)



“The Breakroom Project”

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





“The Window Project”

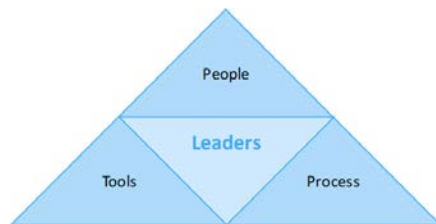


Sustainability



Sustainability: Leadership and Management

- Communication:
 - Essential to maintaining a sustainable Compassion Resiliency program.
 - Regular updates to program happenings.
- Support:
 - Advocate
 - Referral
- Participation:
 - Events
 - Testimonials
- Understand the management perspective:
 - Research must continue.
 - Care standards for animals must be maintained.



Sustainability: Challenges

- Human Resources
- Culture Change
- Lack of support



- Everyone has a full-time job already
- Some staff unsure about program
- Difficult to prioritize ideas



TEXAS BIOMEDICAL
RESEARCH INSTITUTE



SNPRC
Southwest National Primate
Research Center

- Scheduling
- Participation
- Find the time



THE OHIO STATE
UNIVERSITY

OSU Wellness Model

- Career
- Creative
- Emotional
- Environmental
- Financial
- Intellectual
- Physical
- Social
- Spiritual



Sustainability: Operating Budget/Resources

- Identify (and secure) possible funding sources early on.
- Review budget regularly.
- Funding and personnel available to support the program are of course helpful; however, such resources may take time to establish, so planning for actions that can be taken when resources are limited is important.
- Continue to emphasize and justify the need to the institution, so that support (funding (and personnel)) can be encouraged and sustained.



Sustainability: Committee or Working Group

- Committee or working group should meet regularly to:
 - Discuss and review progress.
 - Establish new goals.
 - Evaluate needs.
- Continue to monitor the program and ensure that the actions are impactful is essential.
- Committee should remain independent and available to all research faculty and staff, animal caregivers, veterinary staff, and others.
- Set clear expectations:
 - Committee membership?
 - Charter?
 - Guidelines for volunteers that reach out to staff in need.
- Re-evaluation of the compassion fatigue well-being program should be considered on an ongoing basis.



Sustainability: Measurement of Outcomes

- **Baseline survey:**
 - Critical to determine overall effectiveness.
 - IRB approval?
- **Examples for measuring effectiveness may include:**
 - Engagement. Are people showing up?
 - Discussion. Are people talking about it?
 - Inquiries. Are people reaching out when they need help?
- **Possible indicators or success:**
 - Increase in worker satisfaction.
 - Increased referral rate to the resource that the program offers.
- **Direct measurements of well-being, such as surveys or interviews open to individuals from all aspects of laboratory animal care and use within the institution.**
- **Indirect measures such as error rates, can all help a program determine its needs.**



Photo Credit: Oregon National Primate Research Center/OHSU; ComeSeeOurWorld.org

Sustainability: External and Internal Factors

- Institutions should recognize that the need(s) for a CF program may ebb and flow depending on external and internal factors:
 - Committee or working group must be open-minded and willing to change the program focus depending on the needs of the personnel and with the understanding that some efforts may not result in a useful impact.
 - A successful well-being program is never done. Your team should always be open to feedback and new ideas so the program improves.



Sustainability: Stay Involved

- Recruit investigators to conduct informational seminars:
 - Discuss why the research is important and potential benefits of the results.
 - Explain why specific endpoints were chosen for the study.
- Encourage all forms of support:
 - Investigate partnerships with counseling providers if your institution permits.
 - Encourage individuals to build an outside support network of family and friends.
- Take an opportunity to understand the benefits of the research at your institution:
 - Remember the benefits of research advancement for both humans and animals.
 - Reflect on any personal impacts of research advancements.



Sustainability: Future Directions

- Future studies need to include an overall assessment of the relationship and interplay between people, animals and the environment of the work environment to better support personnel – surveys should include an overall intake of whether this information can help improve health outcomes for personnel that support animal research.
- Additionally, looking for metrics or ways to assess how improved well-being of the humans affects the laboratory animal well-being can provide evidence linking this effort to the One Health concept.

Takeaways...

- Beyond knowledge and skill, empathetic and caring personnel ensure that animals are treated humanely and with respect.
- Emotionally supported individuals who are caring and respectful toward animals are best suited to promote and provide an enriching experience for animals.
- Allowing appropriate outlets for expression can reinforce the integrity of the human-animal bond.
- Compassionate animal care is a foundation of good science.





**Thank you for what you do.....
you truly make a difference!**

It is better to have a Compassion Fatigue Program and not need it –

.....than to need a Compassion Fatigue Program and not have it.

~ Anthony Gray, 2017



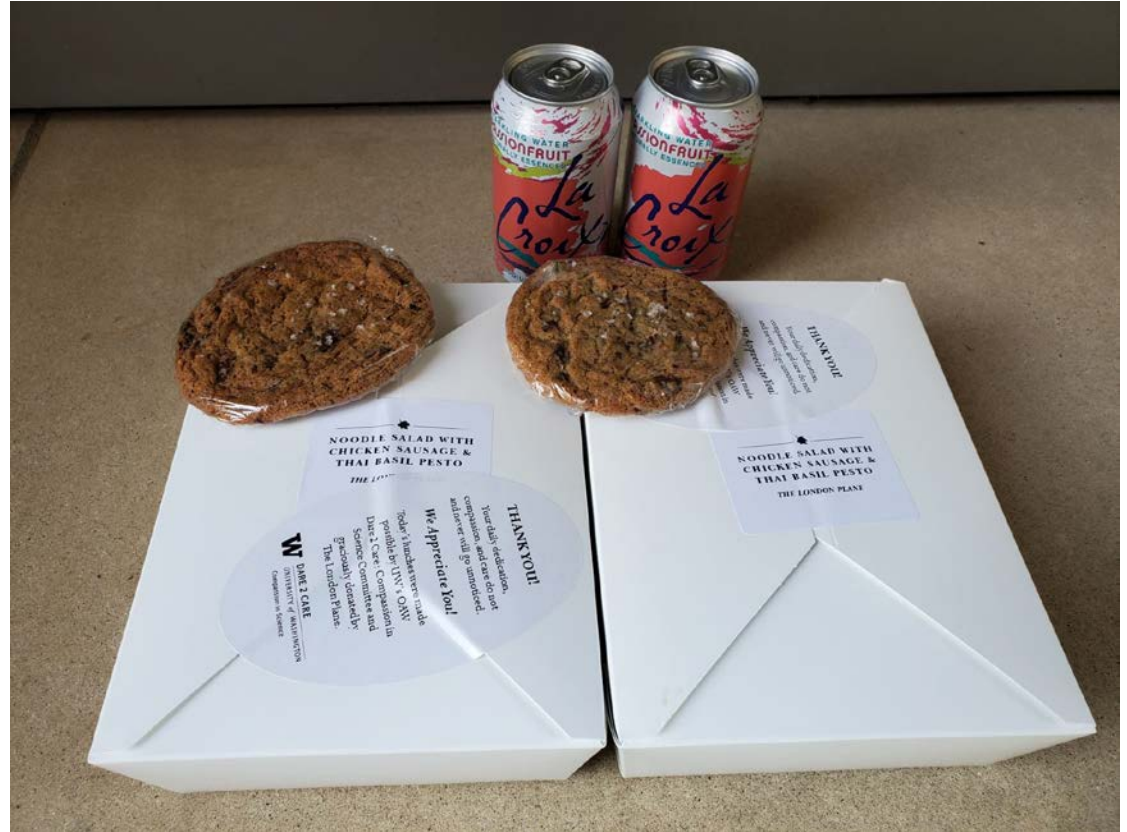
Compassion Fatigue and the Covid Era

Appreciation Lunches

Appreciation Lunches



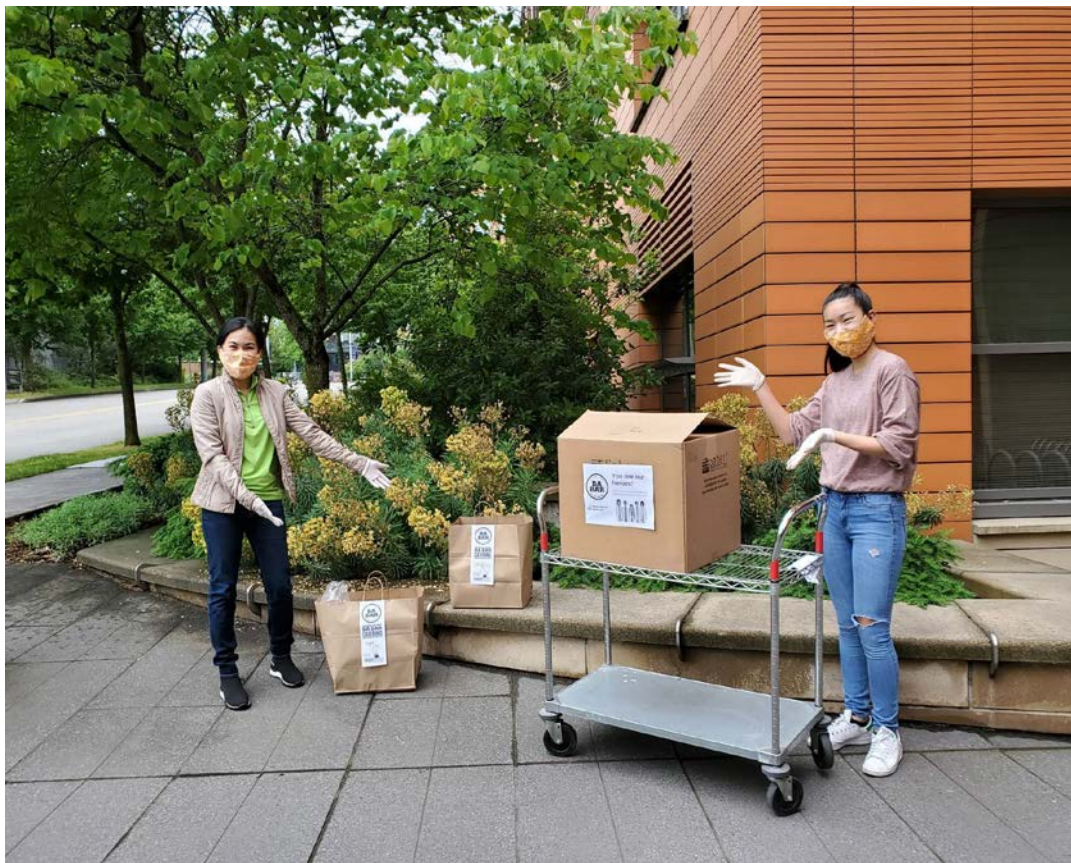
Appreciation Lunches



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Appreciation Lunches



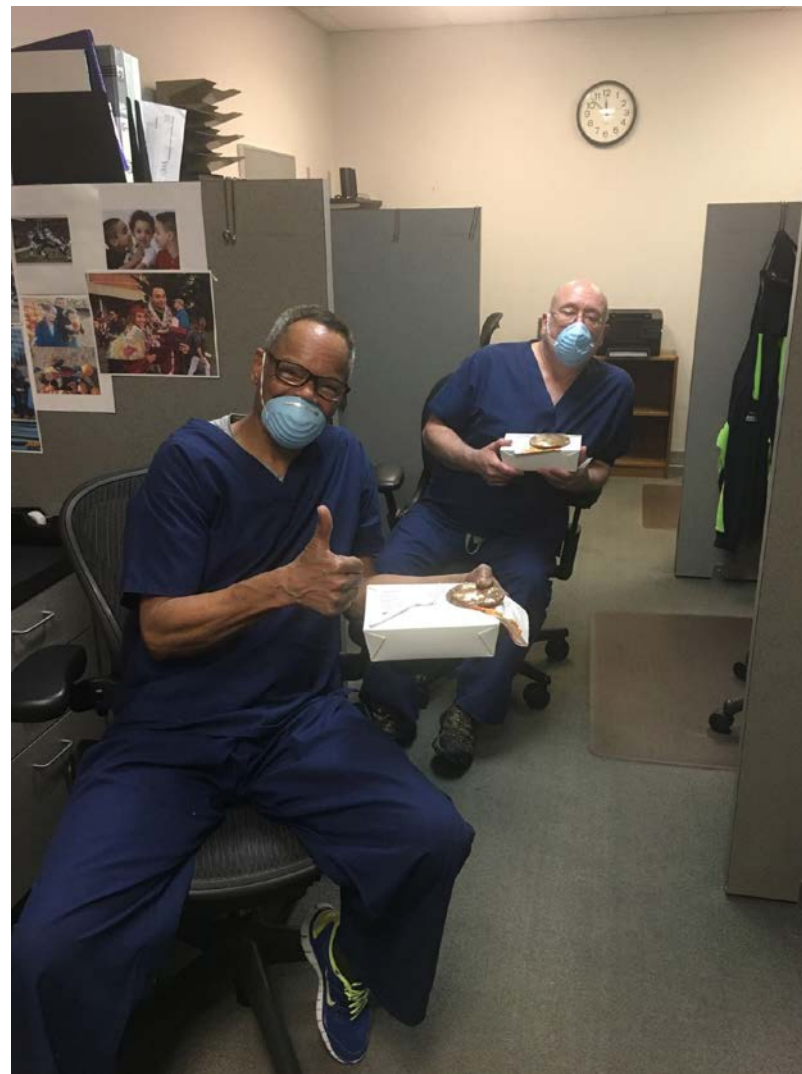
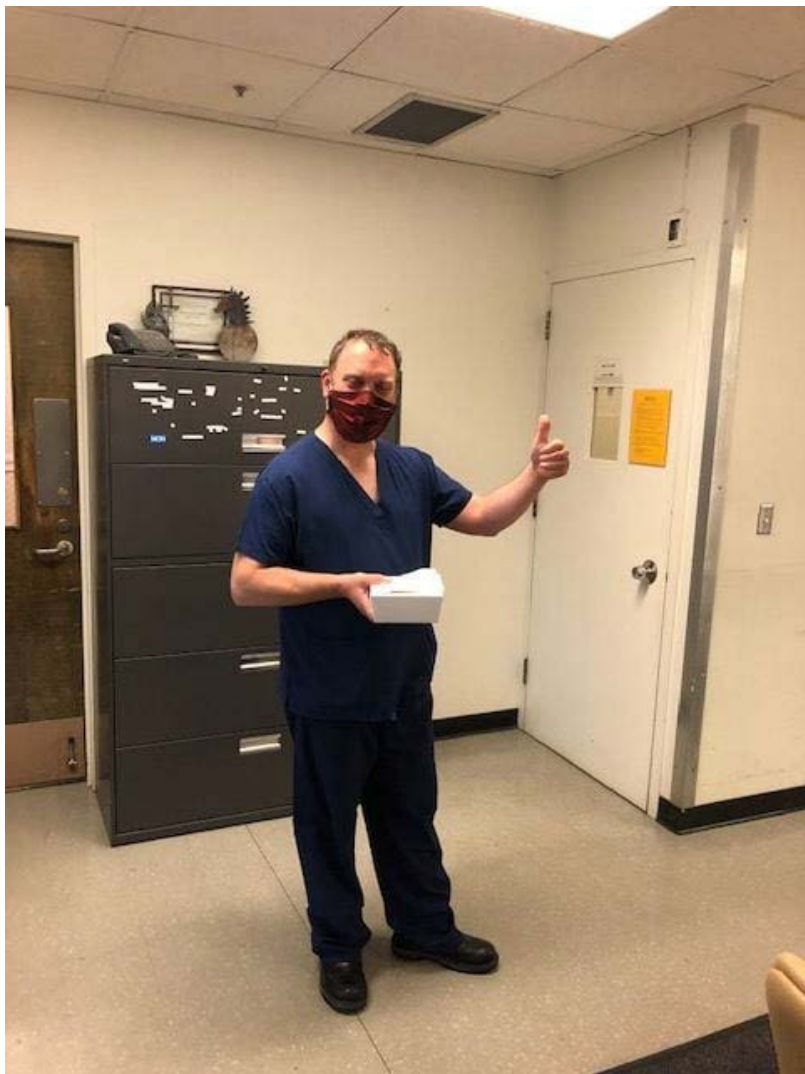
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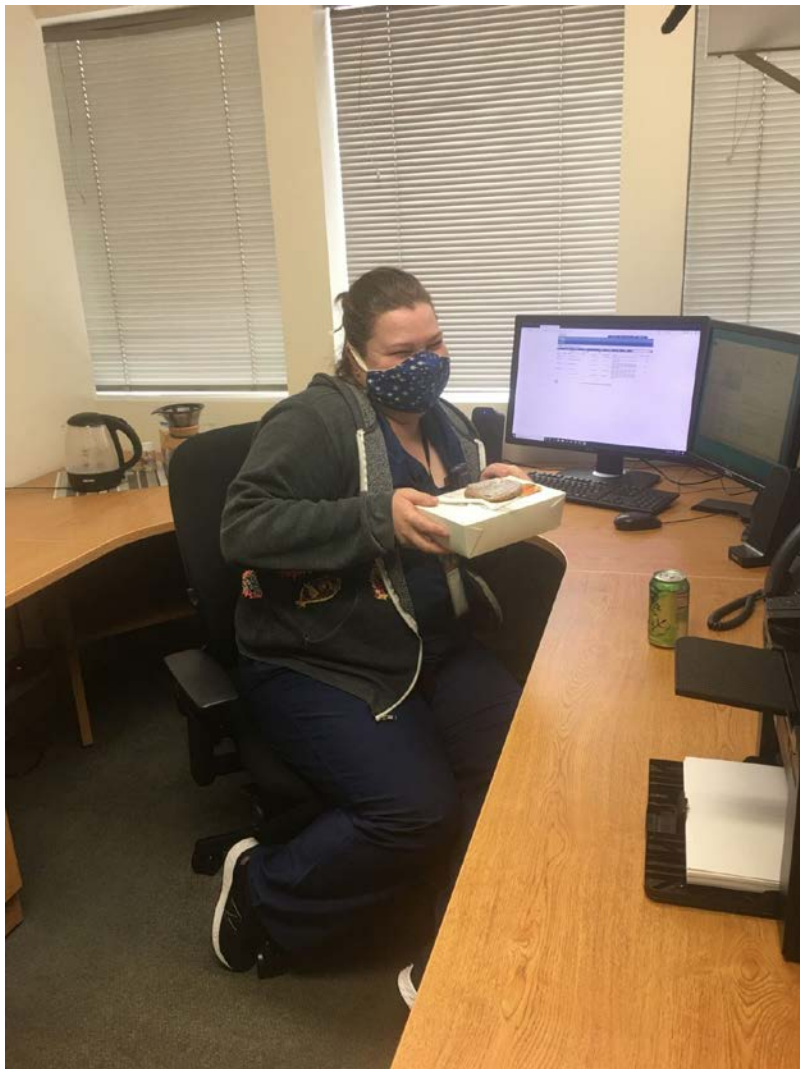
Appreciation Lunches



Appreciation Lunches



Appreciation Lunches



Compassion Fatigue and the Covid Era

Frontline Hero

Frontline Hero





Compassion Fatigue and the Covid Era

Kudoboard



Dare 2 Care: Compassion in Science at the University of Washington has created a [Kudoboard](#) where we are inviting you to write a message of thanks and words of affirmation to UW's hardworking laboratory animal technicians - many of whom provide the utmost care to your research animals on a daily basis. Additionally, we encourage you to ask members of your lab and staff to also leave a note of appreciation on the [Kudoboard](#) as we recognize all the UW's animal care technicians.



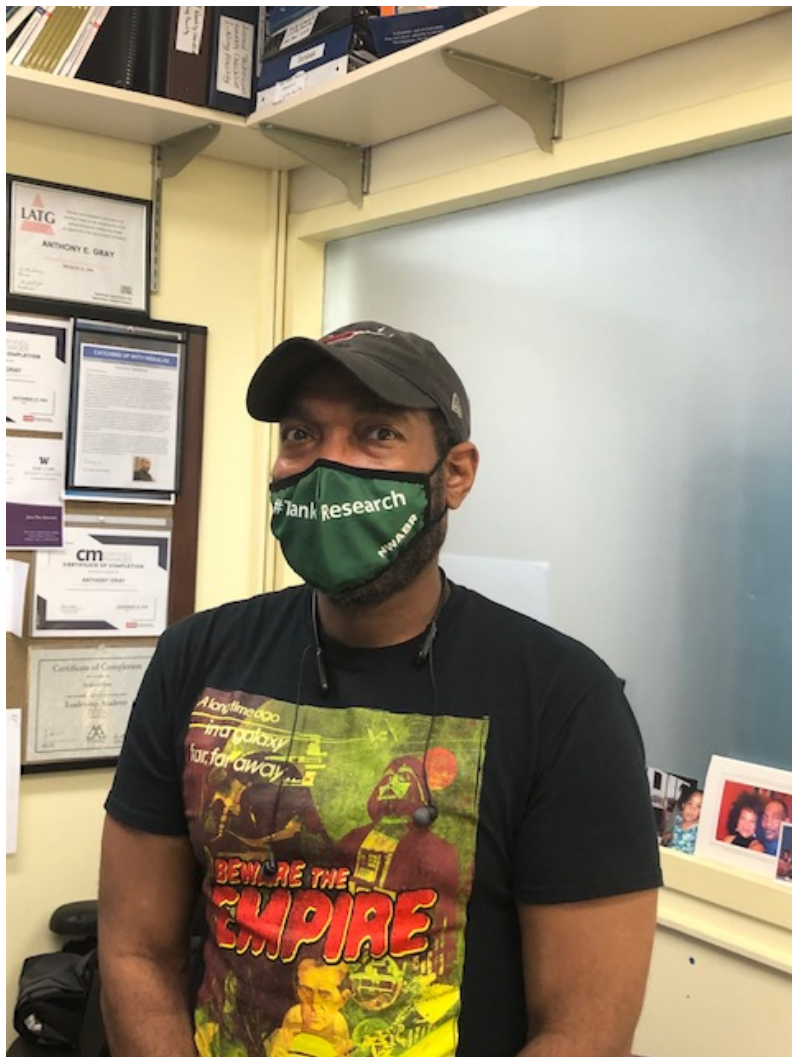
Compassion Fatigue and the Covid Era

#ThanksResearch

#ThanksResearch



#ThanksResearch







#ThanksResearch

