

5/26/2020

Return to In-Person Research Plan, Northlake Diesel Facility

P.I.: Joel Kaufman, MD MPH

Co-P.I.: Lucio G. Costa, PharmD; Toby B. Cole, PhD; Elena Austin, ScD; Tim Larson, PhD

COVID-19 supervisor for Northlake Diesel Facility: Karen Jansen (person who is responsible for compliance with COVID-19 related requirements for working on site)

This plan was developed in accordance with the UW Guide for Returning to In-Person Research, the UW Office of Research's "Checklist for Developing a Return to In-person Research Plan (Governor's Phase 1)" and the UW School of Medicine's Guidelines for COVID-19 prevention while working in the laboratory. Current research involves long-term experiments or maintaining animals and other time-sensitive research items for which a pause would cause undue harm and/or cost. The Office of Research checklist will be used to help with implementation of the plan and ensure compliance with UW guidelines.

Overview of research:

The Northlake Diesel (NLD) Facility, located at 668 NE Northlake Way, contains a diesel generation area, a large room for human-controlled exposures, and a vivarium/exposure room for mice. Experiments currently approved by DEOHS (Costa Lab) to be conducted at the facility involve colonies of mice (GCLM, PON2, B6) that are currently being housed at the Roosevelt I vivarium, the HSC T-wing vivarium, and the vivarium at the Northlake Diesel (NLD) Facility. The Costa Lab plans to resume their experiments in June. The exact experimental schedule will be determined in conjunction with the Northlake Diesel Facility. A second experiment (Austin Lab) will be conducted in June by Tim Gould. This month long pilot will involve testing a new particle size spectrometer on the roof of NLD. The sample inlet of the spectrometer will be placed on the roof of the equipment room at the north end of the building and sample where vehicle emissions from I-5 are prevalent. The research scientist on staff, Jim Stewart, is currently performing only essential tasks relevant to maintenance of the facility: receiving deliveries, repairs, and weekly checks for security purposes. Human subject research will resume only when given IRB approval and will be addressed in a subsequent return to work plan. The Costa Lab experiment is described briefly below:

Exposure of mice to diesel exhaust: This experiment should take 4 to 5 months, and will involve developmental exposure of GCLM+/- and C57Bl/6J mice to diesel exhaust, followed by measurement of behavioral, biochemical and histological endpoints at various ages. Female C57Bl/6J mice will be ordered from The Jackson Laboratory and shipped to Roosevelt I, then transferred to the vivarium at the Northlake Diesel (NLD) facility using an IACUC-approved vehicle. Male GCLM+/- mice currently housed at the Roosevelt I vivarium will also be transferred to NLD for the developmental exposures.

Developmental exposures will take about two months (6-hr/day; 5 days/wk), and will involve timed matings followed by diesel exposures to mice housed in the housing racks in the NLD vivarium. After mice are born, some behavioral testing will be performed in the NLD vivarium before weaning. After weaning, mice will be transferred to the HSC T-wing vivarium using an IACUC-approved vehicle. In the T-wing vivarium, they will undergo behavioral testing for about two months. At various ages, mice will be euthanized and dissected for measurement of a number of biochemical and histological endpoints.

Return to In-Person Research Plan (Northlake Laboratory of Joel Kaufman)

I. Critical Personnel

KAUFMAN LAB: **Jim Stewart** (MSCE, Research Scientist), **Tim Gould** (MSCE, Research Scientist), and **Karen Jansen** (MS, Research Scientist) have been designated by CEE/DEOHS as Critical Personnel, and will be allowed to return to work as necessary to complete experiments. All have indicated a willingness to participate in the proposed research and will follow the process for UWIT Daily Symptom Attestation.

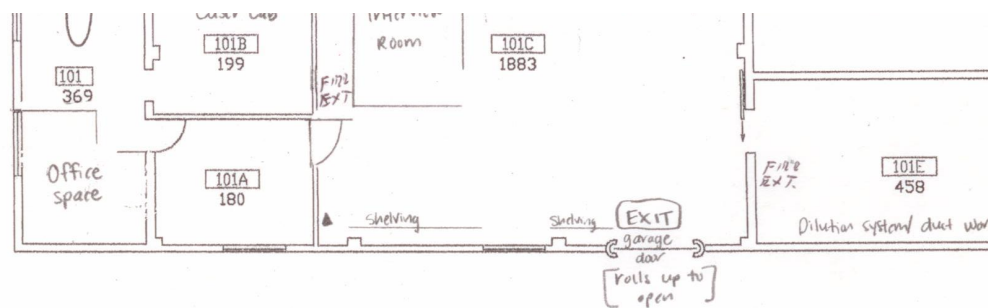
COSTA LAB: **Toby Cole** (Clinical Assistant Professor), **Khoi Dao** (Research Scientist), and **Jacqueline Garrick** (Graduate Student) have been designated by DEOHS as Critical Personnel, and will be allowed to return to work as necessary to complete the Costa mice experiments. All have indicated a willingness to participate in the proposed research and will follow the process for UWIT Daily Symptom Attestation.

II. Social and Physical Distancing Plan.

This Social and Physical Distancing plan for physical facilities is designed to maintain social and physical distancing of 6 feet. The overall goal is to minimize the number of people in a given work area, to allow for 6-ft or more distance between personnel at all times.

A). Floor plans:

Northlake space used by the Kaufman/Costa /Cole research groups:



608 Northlake Way NE

101: Entrance/Lobby/Conference Room (max/room = 2 persons)

101B: Mouse housing/exposure area (max/room = 2 persons)

101A: Office space (max/room = 2 persons)

101C: Garage area/warehouse/interview room (max/room = 4 persons)

Exposure Chamber: Human subject controlled exposure room (max/room = 1 person)

5/26/2020

101E: Dilution/ductwork for generator (max/room = 2 persons)

Engine: Engine/load bank (outside) (max/room = 1 person)

The NLD laboratory houses investigators performing animal and human controlled exposure research, and is currently occupied primarily by the Kaufman and Costa/Cole laboratories. The safe-distancing occupancy limit for this laboratory is estimated to be 14 people maximum, square footage and maximum persons/room is listed above. The Human Controlled Exposure Room (Exposure Chamber) and Generator Load Bank area (Engine) have occupancy maximums of one person at a time. Personnel moving from one location to another within this space will be required to communicate verbally with the other personnel to ensure 6-ft distancing. While in the laboratory spaces at NLk, personnel are required to wear a surgical mask at all times when other personnel are present nearby. Sinks for handwashing and laboratory use are available at the south end of the Garage area/warehouse/interview room (101C) and in the adjoining restroom (adjacent to the Entrance/Lobby/Conference Room).

When entering or exiting a hallway (in particular, the main hallway between the Lobby, Office, and garage areas), watch for other personnel and wait until the hallway or room entrance is clear before entering.

The NLD Kaufman laboratory office (101A; 180 s.f.) has a maximum occupancy of two persons at a time. All high-touch surfaces and equipment used in 101, 101A, 101C and shared spaces (particularly the doorknobs and handles) will be cleaned before and after use, and every two hours if multiple of our staff are present, with 70% ethanol or Clorox wipes. To verify that the cleaning plan is being followed, we will use a check sheet marked and signed after each round of cleaning.

At the Northlake Diesel (NLD) Facility, personnel will be required to wear surgical masks whenever moving about the building and whenever working in shared spaces and other personnel are nearby. Doorknobs and common surfaces in the main entrance area will be cleaned with Clorox wipes or 70% ethanol before and after use. Custodial staff are responsible for regular cleaning and disinfection. All of the work of the Costa / Cole researchers will be performed in the NLD vivarium (a single housing room overseen by the UW Department of Comparative Medicine). As in all other vivaria on campus, PPE (gown, gloves, hair bonnet, surgical mask) are required for entry, and all work with cages and mice take place in a laminar flow that is cleaned with Clidox between cages and before and after use. No more than two researchers will work in the NLD vivarium, and 6-ft distance between researchers will be maintained at all times.

B). Facility usage scheduling plan:

It is expected that during Phase 1, all researchers will carry out any work they can do at home and will minimize the time spent on-site. Employees are required to work from home whenever possible, and will return to work only as necessary to complete specific tasks relevant to the experiments. To minimize the number of researchers in the laboratory or other facilities at any one time, we will use an online calendar to create a scheduling plan for all of our experiments. This schedule will be used to plan research activities and stagger schedules as

5/26/2020

necessary. Scheduled use of the animal housing facilities is coordinated by the Department of Comparative Medicine, using sign-up sheets.

C) Types of work / tasks able to be performed at this time under distancing practices:

Work with mice: animal transfers between Roosevelt I, NLD, and HSC T-wing, exposures of mice to diesel exhaust at the NLD facility

Laboratory procedures: All laboratory procedures relevant to these experiments are able to be performed under distancing practices, including exposure monitoring, pilot testing of equipment, routine maintenance, and animal exposures.

D). Social and physical distancing plan:

The **Northlake Diesel (NLD) Facility** is operated by Jim Stewart (Research Engineer), and contains a centralized mouse housing room overseen by the UW Department of Comparative Medicine. The diesel generation system (diesel generator and exhaust dilution system) is physically separated from the mouse housing room, so diesel exposures do not require any direct interaction between the operator and the researchers in the Cole /Costa laboratories. Scheduling for the NLD facility is coordinated with Jim Stewart and Joel Kaufman, and the schedule is posted via an online calendar system. Animal transfers from Roosevelt I to NLD and from NLD to T-wing will be performed by a single researcher (Toby Cole), using an IACUC-approved vehicle with animal transfer methods approved by the IACUC and UW Department of Comparative Medicine. At NLD, all work by researchers in the Costa / Cole laboratories will occur in the mouse housing room (occupancy: 2). Researchers will remain six feet apart at all times. As in all other UW vivaria, personnel are required to wear PPE, including lab coat, hair bonnet, gloves and surgical mask, and to work with mice in a laminar flow hood. Animal transfers from NLD to T-wing (for behavioral assessments) or to R264 (for euthanasia / dissection) will be performed by a single researcher (Toby Cole), using an IACUC-approved vehicle. All work by researchers in the Austin Lab will occur in the dilution/ductwork room and on the roof. If more than one researcher is necessary (e.g., for training or instructional purposes), researchers will maintain 6-ft distance.

E). Communicating social and physical distancing requirements to research personnel and visitors.

All laboratory spaces will have the maximum occupancy conspicuously posted. Social and physical distancing requirements, policies and procedures will be communicated directly to research personnel during regular laboratory research meetings and by email communication. We do not anticipate any visitors, but if we do have visitors or vendors, they will be asked to sign a print version of the UW Attestation Form and leave it with the NLD research scientist.

III. Responding to Illness

We are taking the following steps to prevent people with symptoms from coming on site and/or working while sick:

5/26/2020

- Employees are required to monitor their health and complete the Symptom Attestation in Workday before they come in each day.
- Personnel are reminded that if they may be ill or symptomatic they must stay (or go) home.

In case of personnel with COVID-19 symptoms:

- Personnel with COVID-19 symptoms will be asked to stay home, notify their supervisor and notify the University of Washington Employee Health Center. Personnel with COVID-19 symptoms will also be asked to contact their healthcare provider
- EH&S COVID-19 Enhanced Cleaning and Disinfection Protocols will be followed when applicable.

IV. Cleaning and Disinfecting the Workplace

All laboratory bench surfaces and equipment will be disinfected routinely (before and after each use, and at the end of each day) using 70% ethanol, using disposable gloves that are disposed into the garbage immediately after use. Additionally, Clorox wipes will be used to clean common surfaces such as door handles/refrigerator handles/microwave handles/keyboards after use. Special care should be taken to disinfect equipment that makes direct physical contact with skin, including eyepieces for microscopes, touch pads, etc. Each user will be responsible for disinfection of surfaces and equipment before and after use. Disinfection at the end of the day will be performed by Jim Stewart (Research Scientist and lab manager), or by whichever employee is last scheduled to work on a given day based on the experimental schedule. In the vivaria, laminar flow hood surfaces, mouse cages, and research equipment are routinely cleaned by the researcher before and after use with 70% ethanol, Clidox or Virkon-S, as directed by the Department of Comparative Medicine. Custodial staff will clean the common spaces, and staff in the Department of Comparative Medicine will clean all of the vivarium spaces routinely. Joel Kaufman and Jim Stewart are responsible for implementing the surface disinfection plan for the NLD laboratory.

V. Safe Practices in the Laboratory / Encouraging Good Hygiene

Keeping a distance (at least 6 feet) from other people is our best protection against COVID-19; however, the following safe practices in the workplace provide additional layers of protection.

- Wear a mask. Masks can help protect others by containing respiratory droplets when the mask wearer coughs, sneezes or speaks. The DEOHS is currently requiring surgical masks on all personnel whenever moving about the building and whenever working in shared spaces and other personnel are nearby, and will masks to lab personnel for this purpose. Masks are also required in any of the vivaria on campus, in addition to other PPE including disposable gowns, hair bonnets, and gloves. NLD will have a supply of masks available for researchers and visitors.
- Wash hands correctly at key moments, avoid touching face with unwashed hands, and cover mouth when coughing or sneezing.

5/26/2020

- Hand hygiene before and after using ANY face covering is critical.
- Researchers will wash their hands with soap upon entering and before leaving the lab and touching shared accessory devices like phones (use speaker phone if possible). Hand Soap, hand sanitizer and wipes/towelettes have been made readily available for use.
- Each researcher will have their own set of any tools that are used very frequently, including pipets, frequently used reagent bottles, laboratory notebooks, and pens.
- Gloves, cloths, or disposable towels will be used when handling common reagent bottles, laboratory equipment, and cabinet handles.
- Door handles will be wiped or sprayed with 70% ethanol (or other approved disinfectant) after use. See EH&S guidelines.
- Disinfect shared materials as described above.
- Avoid hand shaking and hugging.
- Review additional resources as they become available: COVID-19 Health and Safety Resources and University Requirements for COVID-19 Prevention in the Workplace.

VI. Training and Documentation for enhanced COVID-19 practices and procedures

Research staff in the Kaufman/Austin laboratories will be trained by Dr. Kaufman in the practices and procedures described above, and all staff will sign an attestation that they have undergone the training and have read and understood this Return to In-Person Research Plan. Research staff in the Costa / Cole laboratories will be trained by Drs. Cole and/or Costa in the practices and procedures described above, and all staff will sign an attestation that they have undergone the training and have read and understood this Return to In-Person Research Plan. Cleaning logs will be used to document the regular cleaning of commonly-used surfaces.