

Safety Guidelines for Portable Electronic Devices in Research Environments

Purpose

To provide safety recommendations for the use of portable electronic devices (i.e., cell phones, headphones/earbuds, smart watches, tablets, etc.) in research environments at the NIH. The goal is to enhance workplace and staff safety, research integrity, and workplace professionalism throughout the NIH.

What is a Portable Electronic Device (PED)?

For these guidelines, the following are considered Portable Electronic Devices:

Smart phones and other cell phones

Tablets (iPads, Surface Pro, Chromebooks, etc.)

Wearable devices (smart watches, fitness trackers, smart glasses, etc.)

Headphones, earphones, earbuds, etc.

Music-specific devices (iPods, MP3 players, Bluetooth speakers, radios, etc.)

What are the concerns of portable electronic device usage in research environments?

Contamination

Depending on the research environment, personal protective equipment (PPE) may be required. Handling PEDs while wearing PPE may transfer lab contaminants (biological, chemical, and/or radiological agents) to the PEDs, and for those items that leave the lab may transfer said contaminant(s) to an outside or common area. Contamination to a PED may also occur when it is placed on a work surface. Conversely, contamination may also be introduced into a lab environment by handling PEDs while wearing PPE or placing the PEDs on a lab bench or other surface.

Distraction

When focused on a PED, an individual may not be fully aware of their surroundings which can lead to physical harm of self or others (e.g., not hearing an alarm or coworkers in the area, running into objects or people, spills, cuts, mishandling of equipment, etc.).

Photography/Videography

Video, audio, and still image recording is prohibited in some research areas. Presence of personal PEDs in these areas may be restricted. All personnel should consult the manager of the laboratory or facility prior to bringing devices into these spaces and using PEDs for photography or videography at the NIH. Please consult Manual Chapter [3047 - Trans-NIH Animal Facility Security Program](#).

Research Environments

The following represent the main research environments at the NIH for consideration of these guidelines:

- 1) Clinical – Any facility/room where research involving human participants is conducted.
- 2) Animal – Any facility/room where research involving animal subjects and/or materials is conducted.
- 3) Biological - Any facility/room where research involving biological material is conducted.
- 4) Chemical - Any facility/room where research involving chemicals is conducted.
- 5) Radiological – Any facility/room where research involving radioactive material is conducted.
- 6) Aseptic Processing and Testing Facilities - Any facility/room where biological and drug products are present.

NOTE: Areas where specialized research is conducted and/or regulated materials are present, i.e., ABSL/BSL 3 and 4, aseptic facilities, the Clinical Center, patient care/participant areas, etc., will have their own guidelines and safety plan. The recommendations within this document may be considered but do not supersede guidelines and safety plans for such facilities. Please consult with the applicable departments, e.g., Research Surety and Biorisk Management Branch (RSBMB), Radiation Safety Operations Branch (RSOB), etc.

Recommendations

- 1) To minimize the risk of contamination, PEDs should not be carried in a laboratory coat, gown, or coverall pocket or set on a laboratory bench. Cell phones may be carried in clothing pockets under the lab coat and placed on vibrate. Employees should remove PPE, wash their hands, and leave the workspace to interact with their device, when possible. If an emergency arises or the call is related to lab equipment service/repair, care should be taken to minimize contact with lab materials and surfaces. Devices may also be placed in a secure, clear zipper bag for handling within the lab. The bag would either need to remain in the lab or be decontaminated before removal/transport.
- 2) If handling PEDs while wearing PPE (e.g., gloves), the PEDs may become contaminated by whatever the PPE is designed to protect the user from. Alternatively, handling PEDs while wearing PPE may introduce contaminants into the laboratory (e.g., bacteria into a cell culture facility) from the PED. Consider the nature of the work and whether the interaction with a PED (e.g., phone and headphones/buds to change music) may introduce contamination to the user or the research. There are several methods to clean or decontaminate PEDs; please consult the device or equipment manufacturer to ensure this is done properly and without causing damage.
- 3) Laboratory tablets, laptops, and computers used to access electronic lab notebooks (ELNs) can be labeled to indicate whether the device should be handled with gloves or without gloves (“Gloves Only” vs. “No Gloves”). Additionally, the device should remain in the lab, if feasible. Ultimately, the PI should work with their [Safety Specialist](#) and staff members to establish a plan on how the devices will be handled to minimize contamination issues.
- 4) For ELNs requiring two factor authentication, consider practices that minimize handling the PIV card in the laboratory. Consult CIT for PIV card alternatives and devices that may not require use of a PIV card. If a PIV card must be used in laboratory, then establish procedures to avoid handling the PIV card with contaminated PPE or placing it on contaminated surfaces.

- 5) The use of headphones and earbuds in research areas should be established by the head of the laboratory or facility.
 - a. Devices that have dangling wires or other accessories that may pose a safety hazard should be avoided.
 - b. Personnel should avoid the use of headphones and earbuds while walking in the halls, making deliveries, transporting equipment or sensitive materials, or performing technical laboratory duties.
 - c. When using headphones and earbuds, the volume should be set to a minimum so that the quietest coworker can be heard without raising their voice and all emergency notification alarms are audible.
 - d. In the event of using noise canceling devices, consider wearing just one side or one bud to allow for full interaction with people, equipment, and notifications around you. Bone conduction headphones are an alternative to consider as they allow the worker to remain aware of the sounds in their surroundings.
- 6) Animal facilities and lab spaces should ensure that NIH and Institute/Center (IC) policies, guidelines, and standard operating procedures (SOP) addressing use of portable electronics and recording devices are followed at all times. All personnel entering the animal facility are responsible for educating themselves on the policies and guidelines for PED usage in that facility. Use of these devices in areas where animals are used present additional considerations, including:
 - a. Animal Imaging and Recording: Use of audio, photography, and video recording devices is prohibited except in performance of approved Animal Care and Use Committee (ACUC) activities or if authorized by the IC Animal Program Director (APD) or designee. For more information, refer to the Animal Research Advisory Committee (ARAC) [Guideline for Collecting and Releasing Animal Images and Audio Recordings](#).
 - b. Biosecurity: PEDs used in different locations and without proper precautions could result in the contamination of laboratory animals with undesired infectious agents. Devices can act as fomites and transmit pathogens between animals, animal rooms, or animal facilities.
 - c. Laboratory Animal Allergens: Use of PEDs in animal facilities could result in contamination of equipment with proteins found in urine, saliva, dander, hair/fur, and other materials. PEDs can continue to be a source of animal allergens to users once removed from the animal facility, if not properly cleaned. Special consideration should be taken with materials that are porous or not easily sanitized.
 - d. Biosafety: Laboratory animals could be the source of zoonotic and/or experimentally induced infectious diseases. Special precautions should be taken if PEDs are used when working with animals or animal tissues exposed to infectious agents.
 - e. Other Considerations: Use of light, sound, or vibration emitting electronics should be carefully reviewed as these can introduce research variables and/or disturbance to animals (i.e., rodent breeding colonies). Studies have shown that music and flashing lights can affect rodent behavior, so researchers should be aware of this when conducting behavioral testing in lab spaces.
- 7) The use of PEDs in radiological research areas should be limited and personnel should consult the PI/facility manager and their RSOB [Health Physicist](#) for guidance and restrictions. If PEDs are used in

radiological research areas, the devices should be surveyed for contamination before exiting the lab space.

- 8) In Aseptic Processing and Testing Facilities wristwatches, electronic watches, headphones, air pods, cell phones, or other personnel items and any other non-essential items should not be allowed in these areas. Electronic devices used in cleanrooms, (e.g., tablets, etc.) that are supplied by the facility solely for use in the cleanrooms may be acceptable if suitably designed to permit cleaning and disinfection. Electronic devices such as cell phones may be used for work duties if permitted by facility Quality Assurance and the device is placed in a secure, clear zipper bag and can be sanitized prior to entering the clean areas. Ultimately, personnel working in specialized facilities, including Aseptic facilities, ABSL 3/4, etc., should follow guidelines set forth by those facilities.

Summary

Each PI/laboratory/facility should assess the risks of their research environments and workplaces, including procedures conducted and materials used, and develop a safety plan to educate staff working in those environments to minimize risks associated with PED usage. All staff are responsible for the safe use of PEDs in their workspaces at the NIH.