# University of Arizona

## PAPR Plan

*[This is a template. Fill in all necessary blanks, and delete all highlighted areas when complete. Add any sections necessary for your laboratory.]*

**Approval Holder (AH):** Click here to enter text. **Approval #:** Click here to enter text.

**Approval Safety Coordinator (ASC):**Click here to enter text.

**Locations with PAPR Use/Storage:**

|  |  |  |
| --- | --- | --- |
| **Building** | **Room** | **Room Type** |
| Enter building name. | Enter room number. | Choose an item. |
| Enter building name. | Enter room number. | Choose an item. |
| Enter building name. | Enter room number. | Choose an item. |
| Enter building name. | Enter room number. | Choose an item. |
| Enter building name. | Enter room number. | Choose an item. |
| Enter building name. | Enter room number. | Choose an item. |

**Summary of Changes:**

*[Summarize the changes to this Plan since the last amendment. If there have been no changes, or if this is the first Plan for the Approval Holder, write “N/A” for this section.]*

**AH/ASC Electronic Signature:**Sign by entering full name. **Date:**Click here to enter the date.

# 1 Introduction

### Purpose

This PAPR Plan addresses the use and care of Powered Air-Purifying Respirators (PAPRs) within Enter AH’s name’s University of Arizona (UA) laboratories. Reading and affirming to this plan on the [User Dashboard](https://rlss.arizona.edu/services/index.xhtml) will complete the “fit test” and training requirements for PAPRs.

### Background

Powered air-purifying respirators (PAPRs) are air-purifying respirators which use a blower to force the ambient air through air-purifying elements outside the respirator ([29 CFR 1910.134](https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134)). PAPRs that have loose-fitting facepieces, such has hoods or helmets, are not required by the Occupational Safety and Health Administration (OSHA) to complete a respirator fit test before one can be worn by an employee. However, all PAPRs do require proper training on donning and doffing the respirator as well as general maintenance and care. In addition, any employee who is required to wear a PAPR for work purposes at the University of Arizona must be medically cleared by Occupational Health before completing their PAPR training. PAPR training for medically cleared workers will be provided by authorized individuals within Enter AH’s name’s lab group or Risk Management Services; however, proper use and cleaning should be in accordance with the PAPR manufacturer’s instructions.

### General PAPR Information

*[Additional information can be added at the digression of the lab. The purpose of this section is to inform wearers of what a PAPR is and other general information.]*



[Centers for Disease Control](https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/powered-air-purifying-respirators-strategy.html)

A powered air-purifying respirator uses a blower to force air through filter cartridges or canisters and into the breathing zone of the wearer and should be worn for high-risk aerosol-generating procedures. This process creates flow inside either a tight-fitting facepiece, which a fit test is required for, or loose-fitting hood or helmet. PAPRs reduce aerosol concentration inhaled by the wearer to at least 1/25th of that in the air. When used properly, PAPRs provide increased protection and decrease the likelihood of infection transmission to the wearer compared to filtering facepiece respirators (ex. N95) and half face reusable elastomeric respirators.

Loose-fitting NIOSH-approved PAPRs have several advantages over tight-fitting non-powered respirators:

* A fit test is not required for PAPRs with loose-fitting headgear such as hoods and helmets.
* PAPRs with loose-fitting headgear can be worn with a limited amount of facial hair.
* Some models offer cartridges for particulate and/or gas/vapor protection.
* Hooded PAPRs or PAPRs with helmets may offer limited to significant splash protection for the face and airs.
* Most PAPR components can be cleaned, disinfected, re-used, and shared.
* PAPRs use only high efficiency (HE or HEPA) filters, which have greater filtration efficiency against the smallest pathogen particles compared to N95s.
	+ PAPR HE filters used in industry are generally re-used until they are soiled, damaged, or reduce PAPR air flow below specified levels. Caution should be used when using the filter for any live microorganism, and a practical replacement cycle should be implemented when working with unknown agents.
* A PAPR may be less taxing from a physiological/breathing resistance perspective than other respirators.

Limitations of PAPRs include:

* Interference with the wearer’s visual field because of the limited downward vertical field of view.
* The wearer’s ability to hear may be reduced because of the blower noise, and noise induced by the movement of a loose head covering.
* PAPR batteries must be recharged or replaced.
* PAPRs require a significant amount of storage space in between shifts.
* A facility or lab group must train PAPR wearers to maintain and properly disinfect and clean the PAPR.

# Standard Operating Procedures for PAPR use in Lab

Approved PAPR Trainers in Enter AH’s name’s lab are as follows: *[There is no minimum or maximum to the number of individuals who can be authorized to train new lab members. Please include all applicable lab members.]*

* First and Last Name.
* First and Last Name.

If there are questions on use and care of PAPR models used by the group, the above individuals have approval from Enter AH’s name to be points of contact for this lab group.

PAPR models utilized by Enter AH’s name’s lab include: *[There is no minimum or maximum to the number of PAPR models used by a lab group. Please include all applicable models. Filter type may also be included if so desired.]*

* PAPR Make and Model
* PAPR Make and Model

### Donning and Doffing (Putting On and Taking Off)

*[Include all procedures for properly putting on the PAPR as well as properly removing the PAPR. These instructions may vary depending on PAPR model and which headpiece is being utilized by the lab group. Please include all procedures for ALL PAPR models used in the lab group.]*

*[If user manual(s) are available and outline the proper donning and doffing procedures, please delete the below paragraph and skip to the procedures.]*

Because PAPRs include a variety of components, it is important that they are donned and doffed properly to ensure all components are in good, working order. Before donning the PAPR, the various components should be checked to ensure there is no damage that may interfere with air flow, such as a cracked tube or broken connection. Filters should also be visually checked to ensure they are not visibly clogged. While wearing the PAPR, it is important to be aware of one’s surroundings so as not to snag the tube between the hood and the filter on various objects in the lab space, such as door handles or the arm rests of chairs.

The donning and doffing procedures for Enter AH’s name’s lab are as follows:

1. *[If manufacturer instructions or user manuals are available and followed by the lab, please include a copy in Appendix A and state* See Appendix A *for this section.]*

### Cleaning

*[Include all procedures for properly cleaning and disinfecting the PAPR. These instructions may vary depending on the agents used or the procedure(s) carried out by the wearer. Please include all cleaning procedures for ALL PAPR models across ALL procedures in which PAPRs are needed that will be used by the lab group.]*

Manufacturers recommend cleaning and disinfection procedures for PAPR components except for the HE filter/cartridge, which they generally recommend to be discarded and replaced. Filter cartridges can be reused until they become so clogged that they reduce airflow or become visible soiled or damaged. Clogging is not expected to be a factor in non-dusting environments. The outside of the filter cartridge can have surface cleaning and decontamination. Viruses and bacteria can survive on respirator components for variable periods of time, from hours to weeks. Consequently, contaminated respirators must be handled, cleaned, and disinfected properly to reduce the possibility of the device serving as a fomite and contributing to disease transmission. According to OSHA, commercially available cleansers of equivalent disinfection quality can be utilized if their use is recommended or approved by the respirator manufacturer.

Conventional PAPR use requires cleaning and disinfecting using either the procedures in OSHA’s Respirator Protection Standard or the procedures recommended by the respirator manufacturer, provided they are at least as effective as OSHA’s.

The cleaning procedures for Enter AH’s name’s lab are as follows:

1. *[If manufacturer instructions/recommendations are available and followed by the lab, please include a copy in Appendix A and state* See Appendix A *for this section.]*

### Maintenance

*[Additional information can be added at the digression of the lab.]*

When not in use, PAPRs should be stored away from potential sources of contamination and in a way to prevent accidental damage from occurring. PAPR hoods/helmets should be cleaned and disinfected before being stored, preferably before each doffing. The recommended disinfectant is a 10% bleach solution followed by water to wash off any residual bleach.

The PAPR battery should remain in the charger when not in use to ensure it does not run out during a procedure. Know the lifespan and limitations of the PAPR’s battery.

HE filters should be changed whenever it reduces the airflow of the PAPR (i.e., when it becomes difficult for the user to breathe), they become damaged, or whenever the filter becomes visibly clogged/soiled. A best practice would be to replace the filters annually when PAPRs are used on a daily basis in a non-dusty environment. When using unknown agents, a shorter replacement cycle may be necessary to ensure workers are properly protected.

# 3 Additional Information

*[Use this section to add any information specific to your laboratory that were not covered in Sections 1 and 2. If there is no further information you would like to add, delete Section 3 entirely.]*

*Helpful Links:*

*CDC’s “*[*A Guide to Air-Purifying Respirators*](https://www.cdc.gov/niosh/docs/2018-176/pdfs/2018-176.pdf)*”* (PAPRs are present on the final page)

*3M’s Guide to “*[*Cleaning and Disinfecting 3M PAPRs following Potential Exposure to Coronaviruses*](https://multimedia.3m.com/mws/media/1824567O/cleaning-and-disinfecting-3m-powered-air-purifying-respirators-technical-bulletin.pdf)*”*

*CDC’s “*[*Considerations for Optimizing the Supply of PAPRs*](https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/powered-air-purifying-respirators-strategy.html)*”*

*OSHA’s eTool “*[*The Advisor Genius: Selecting an Appropriate Respirator*](https://www.osha.gov/etools/respiratory-protection/expert-systems/respirator-selection)*”*

# Appendix A: PAPR Operating Manual

*[If available, the manufacturer’s manual or other use/care instructions can be added here. If not available, delete this section.]*