List of BSL3 SOPs included in this document

These SOPs are specific for Monkeypox (MPXV) research in the BSL-3. You must read and understand general SOPs in the JBF Biosafety manual to conduct research in the JBF.

SOP 1: Entry into the BSL3 laboratory

SOP 2: Exiting BSL3 laboratory

SOP 3: Working with MPXV in the BSL-3 Suites

SOP 4: MPXV infection in the BSL3

SOP 5: Daily decontamination procedure for liquid waste

SOP 6: Spill Clean up

SOP 7: Kakaako BSL-3 sharps management

SOP 8: Emergency responses to HVAC and power failure

Appendix 1: Pest management plan specific for Kakaako BSL-3

Appendix 2: SOP for tsunami

Appendix 3: Bomb threat/suspicious package SOP

SOP 1: ENTRY INTO THE BSL-3 LABORTORY

Entrance in to the BSL-3 Anteroom

1. Pass keycard over reader at hallway door and touch finger on biometric sensor.
2. Enter hallway and proceed to end of hall.
3. Before entry into the BSL-3 anteroom, check the Magnahelic gauge for a reading of -0.05 or greater (indicating increased *negative* pressure). Enter your name, date, time of entry, purpose of entry, and the current reading of the Magnahelic. Note that the pressure was appropriately negative and is a suitable range for entry. If the reading is not sufficiently negative, you must call your PI and/or JBF Supervisor (Eileen Nakano 692-1612) and inform them of the insufficient pressure and obtain approval and further instructions before entering.
4. Ring the bell twice and wait for 15 sec. Make sure that no one is exiting the BSL-3 prep suite before attempting to enter.
5. Place keycard on the biometric reader.
6. Place finger or thumb on top of biometric surface wait for green light to appear.
7. Once again, be aware of persons that may be coming out of the BSL-3 prep suite. Do not open the door if you see persons exiting the BSL-3 prep suite.
8. Open door and proceed to the anteroom.
9. Make sure that the door is closed.
10. **NO PIGGYBACK POLICY ENFORCED**. Each person must use their own keycard to enter the BSL-3 lab.

Please note: Do not bring personal items into the anteroom. NO BACKPACKS, NO PERSONAL LISTENING DEVICES, CELL PHONES, LAPTOPS, BOOKS, ETC. Cardboard is not allowed in the BSL3 facility. If using a cardboard box to transport items, transfer items and dispose of the cardboard immediately.

Entrance into the BSL-3 Prep room

1. Put on gown and shoe covers/designated shoes.
2. Check the Magnahelic which monitors the pressure of the Prep Room, making sure that airflow is negative (-0.020 to -0.05). Sign Entry Log Sheet: enter your initials, date, time, and pressure reading.
3. Place keycard next to the Biometric Palm reader.
4. Place your palm on Biometric reader to gain access into preparation room.
5. Open door and enter preparation room area.
6. Immediately don first layer of gloves.
7. Survey the room for any irregularities and lab cleanliness.
8. Check on autoclave, ultra-cold freezer (-80^{o}C), refrigerator, and tissue culture incubator readings.
9. If you are the first BSL-3 user of the day, pour 50 mL disinfectant into the drains of the Prep Room sinks.
10. After finishing assigned tasks in the Prep Room, place items to be moved into your assigned Manipulation Suite into a closed carrier container or the Transport Cart.

11. Move tissue cultures or virus stock into an assigned Manipulation Suite where work is to be performed (refer to the SO*P- Movement of virus between Manipulation Suite and Prep Room*).

Entrance into the BSL-3 Manipulation Suite for MPXV

1. Check signage at the entrance of your assigned Manipulation Suite for agent specific information.
2. Check Magnahelic to confirm negative pressure (approx) 0.05 inside the Manipulation Suite. Note initials, date, pressure, and time of entrance in the Manipulation Suite Logsheet, then enter the selected suite.
3. Place Keycard near biometric reader. NO PIGGYBACKING!
4. Enter Suite and place carrier container on to the counter. If using Transport Cart, move through the door with the cart and place near the end of the counter.
5. Immediately don secondary gloves and disposable sleeves over your gown once fully inside the Manipulation Suite.
6. Immediately wear N95 mask and bonnet.
7. Work can begin adhering to the guidelines of the Working in the BSL-3 Manipulation Suite SOP.

SOP 2: EXITING THE BSL-3 LABORTORY

1. Clean BSC with 10% bleach (made fresh daily), dry and wipe down with 70% alcohol.
2. Switch on the UV and leave on for 20 min to decontaminate the BSC.
3. Add 1% bleach to sink to fill trap.
4. Remove N95 masks.
5. Discard N95 mask if doing high-risk procedures. Save N95 mask appropriately if dong low-risk procedures. There is a shortage of masks and PPE. Consult your supervisor.
6. Remove sleeves and outer gloves and place in wastes container.
7. Now exit from MPXV suite into the preparation room
8. Remove inner gloves and booties. Wash hands with soap and water for minimum 30 sec.
9. Exit preparation room
10. Remove gown in the anteroom
11. Sanitize hands with waterless hand sanitizer just before exiting the BSL-3 anteroom
12. Exit BSL-3 anteroom.
13. Wash hands with soap and water in the IBR corridor rest room.
14. Exit hallway in the BSB lobby

SOP 3: WORKING WITH MPXV IN THE BSL-3 SUITES

1. Clean BSC with 70% alcohol
2. Dry it completely and spread the versi dry.
3. Place supplies into the BSC; a covered trash pan, small beaker with freshly prepared 10% bleach, tissue culture plate, media etc.
4. Arrange all items in good configuration so that air flow will not be obstructed.

5. Wear N95 mask and bonnet.
6. The personnel, *BSC and the suites are now ready for the following virus manipulations*.

SOP 4: MPXV STOCK PREPARATION IN THE BSL3

Before working with the MPXV, the lab worker must:

- *have the approval of the PI who shall provide specific training according to this SOP*
- *complete UH lab safety training and JABSOM Kaka'ako hazardous waste generator training prior to working with any chemicals;*
- *sign this SOP as documentation that he/she understands the hazards and has been trained in how to complete the following tasks safely.*

Statement of Understanding and Compliance

I confirm that I have read and understand this SOP and will comply with the procedures and policies.

Name: **Signature:** **Date:**

_____

_____

_____

_____

PPE Requirements & Special Practices: In addition to standard BSL3 Manipulation Suite PPE (booties, wrap-around blue gown, black primary gloves, manipulation sleeves, and secondary grey gloves), N95 mask and safety glasses shall be worn when working with the MPXV as per the entry SOP

Stock virus preparation procedures:

1. In the prep room, carefully remove the original vial of virus from the -80 freezer and place in secondary containment.
2. Take the vial in secondary containment into the suite and immediately place in BSC.
3. Carefully remove the T75 or T125 flask with Vero cells from the incubator and place in the BSC.
4. Infect T75flask (10mL media) with 100uL and T125flask (20mL media) with 200uL of thawed virus and return the flask to the incubator located in the suite. INFECTED TISSUE CULTURES WILL BE INCUBATED ONLY IN THE ASSIGNED INCUBATOR FOR MPXV IN THE SUITE. NO INCUBATIONS OF INFECTED CULTURES WILL BE HOUSED IN THE PREP ROOM.
5. After 2 hrs of infection, add 10mL of fresh media in the flask and return to the incubator. For stock preparation, washing cells after 2 hrs is not needed.

6. Determine if the virus waste and tips etc has been in the bleach solution for at least 20 minutes. After the 20 minutes decontamination time, the virus is totally inactivated, i.e. not viable as per CDC.
7. Use a pH strip (located near the sink) to check the pH to ensure the solution is in the acceptable range of 5.5 and 9.5. If necessary, add water until the pH is within the acceptable range.
8. Pour the waste down the sink drain followed with water for at least 1 minute.
9. Decontaminate the BSC and work surfaces as described in the *Clean-up SOP*.

Procedure of harvesting supernatant as virus stock:

1. After 4 days carefully take the flask out of the incubator and place it in the BSC hood.
2. Remove the media and place in a 50mL falcon tube (~15mL for T75 and 35mL for T125 flask).
3. Bring the rotor of the centrifuge inside the BSC hood. Carefully place the tubes in the rotor and screw the rotor cover completely. Spray the rotor with 70% ethanol and wipe it well from the outside.
4. Carefully carry the rotor to the centrifuge (located just behind the BSC) and spin the virus supernatant for 15 min at 7,000 rpm to remove any cell debris. Bring the rotor back to the BSC and carefully remove the falcon tubes out of the rotor.
5. Bring the rack of freezer cryovials already labeled with all required details (virus information, date, amount, etc) in the BSC.
6. Carefully aliquot approximately 200 or 500ul virus supernatant in each vial.
7. Wash flask and tubes with 10% bleach solution once and discard leftover waste into the bleach solution container.
8. Carefully place the vials in a 96-well box. Place this box in a secured secondary container and move it out to the prep room to store the stock virus vials in the -80^{o}C freezer.
9. Determine if the infectious waste has been in the bleach solution for at least 20 minutes. After the 20-minute decontamination time, the virus is inactivated, i.e. not viable.
10. Use a pH strip (located near the sink) to check the pH to ensure the solution is in the acceptable range of 5.5 and 9.5. If necessary, add water until the pH is within the acceptable range.
11. Decontaminate the BSC and work surfaces as described in the *Clean-up SOP*.

SOP 5: DAILY DECONTAMINATION PROCEDURE FOR LIQUID WASTE

No liquid waste is to be discharged into sinks without prior decontamination;

1. All Liquid effluent waste in the containment area will be collected daily and decontaminated with fresh 10 % sodium hypochlorite solution.
2. Waste is treated for a minimum of 15 minutes before being neutralized with water.
3. Neutralized waste is discharged in the sink with additional copious amounts of water.
4. A 50 ml solution of Rocal disinfectant (quaternary ammonium) or similar type of disinfectant will be added to the sink trap before and after each use.

SOP 6: SPILL CLEAN UP

Biological Spill/Release inside a Biosafety Cabinet (BSC)

- Notify others in the area about the spill.
- Leave the BSC blower on.
- Secure any biological materials.
- If there is gross contamination of your PPE, wipe down with paper towels soaked in disinfectant solution, carefully remove and properly dispose of contaminated PPE. Don fresh PPE before beginning clean up.
- Remove any sharps that might be present in the spill area using forceps or tools. Do not use your hands, even if gloved.
- Cover spill with paper towels/absorbent material. Apply appropriate disinfectant proceeding from the outside toward the center. Allow to remain for the required contact time.
- Wipe down all surfaces and equipment in the BSC with appropriate disinfectant solution.
- Dispose of all contaminated materials into red biohazard bag. Change outer gloves after collecting materials.
- Autoclave/decontaminate waste.
- Follow the phone tree and notify your PI and JBF Supervisor regarding the spill, and then complete a JBF Incident Report.
- The JBF Supervisor will notify the appropriate individuals on the JBF Incident Response Phone Tree.
- The JBF Director will inform the BSO, Kaka'ako EHSO, AVS Manager/Manager (if applicable), and Facilities Director of the spill.

Biological Spill/Release outside a BSC

Any spill of infectious material should have occurred in a BSC. Otherwise, you have already violated these requirements.

A spill outside of a BSC is unacceptable and presents a number of problems. First, all staff members in the room where the spill has occurred are now considered potentially exposed and, thus, must be considered for a self-quarantine for 14 days. Second, the spill must be immediately decontaminated to prevent the potential spread of infectious material. The survival of MPXV on surfaces is expected to be a number of hours so shoes, socks, pants, etc are all suspect in the event of a spill outside the BSC and must be removed carefully and bagged to minimize the chance of generating inhalable aerosols. Follow the JBF spill containment procedures.

If the spill is **SMALL** (<100 mL) and can be easily contained and cleaned up:

- Notify others in the area about the spill.
- Spray down any potentially contaminated PPE with decontamination solution and carefully remove and properly dispose.
- Don fresh PPE. Obtain spill kit materials.
- Remove any sharps present in the spill area using forceps or tools to collect sharp pieces. Do not use hands, even if gloved.

- Place absorbent material over the spill, starting from the outside and working toward the center. Add extra absorbent material beyond the edges of the spill.
- Soak the absorbent material, outside toward the center, with the appropriate disinfectant also spray area around spill.
- Allow the required time for absorbent material soaked with disinfectant to remain on the spill. Carefully collect and dispose of all contaminated materials in red biohazard bag
- Wipe down spill area again with disinfectant soaked paper towels.
- Disinfect any equipment, walls, or other areas around spill that might have been splashed. Discard paper towels used in cleanup/wipe down into a red biohazard bag.
- Change outer gloves after collecting materials.
- Autoclave/decontaminate waste.
- Notify your PI and JBF Supervisor that clean-up was completed and complete a JBF Incident Report.
- The JBF Supervisor will notify the appropriate individuals on the JBF Incident Response Phone Tree.
- The JBF Director will inform the BSO, Kaka'ako EHSO, AVS Manager/Manager (if applicable), and Facilities Director of the spill.

If a **LARGE** spill (greater than 100 mL) should occur and cannot be handled easily or contained:
- Immediately evacuate the laboratory.
- Post signs at the Suite and Anteroom entrances prohibiting entry.
- Notify your PI and JBF Supervisor once outside of the laboratory and complete a JBF Incident Report.
- The JBF Director will inform the BSO, Kaka'ako EHSO, AVS Manager/Manager (if applicable), and Facilities Director of the incident.
- The JBF Supervisor, JBF Director, JBSO, Kaka'ako EHSO, and JABSOM Facilities Director will discuss the situation, conduct a risk assessment, and determine the course of action.
- Once the plan has been discussed and approved, the spill will be cleaned up by approved staff.

Biological Spill/Release Inside a Centrifuge

- If a breakage or spill is known or suspected while the machine is running.
- Immediately stop the cycle and turn off the centrifuge.
- Allow the centrifuge to come to a complete stop.
- If the centrifuge is small and can be placed into the biosafety cabinet, (e.g., microcentrifuge) place it in the biosafety cabinet before opening. If it cannot be placed in the biosafety cabinet, contact your PI and JBF Supervisor, before proceeding.
- Do not open the centrifuge for at least 30 minutes to allow any aerosols to settle.
- Once approval has been given, use appropriate PPE (e.g., thick rubber gloves, safety goggles) to clean spill.
- Lay towels soaked in disinfectant over the spill area. Allow the required time for absorbent material soaked with disinfectant to remain on the spill.
- Use forceps, or cotton swabs held in forceps, to pick up small pieces of sharps.
- All broken tubes, sharps fragments, buckets, trunnions, and rotors must be properly decontaminated (treated with an appropriate disinfectant or autoclaved). If safety cups (sealed buckets) or sealed rotors were used, they must be opened in a biosafety cabinet.

- Unbroken, capped tubes can be disinfected in a separate container if the contents are to be recovered.
- All cleaning materials shall be collected and decontaminated.
- Contact the JBF Supervisor when cleanup is completed and document the incident by completing a JBF Incident Report.
- If, upon opening the rotors inside of the BSC, you notice evidence that a spill has occurred during centrifugation (e.g., cracks in the containers), follow the instructions for a spill inside of the BSC.
- The JBF Director will inform the BSO, Kaka'ako EHSO, AVS Manager/Manager (if applicable), and Facilities Director of the incident.

Spill or Release Outside of Containment

- Biological materials leaving the BSL-3 facility must be properly packaged as per Department of Transportation (DOT), the Federal Aviation Authority (FAA), and the International Air Transport Association (IATA) dangerous goods regulations. Federal and international regulations require that the shipper successfully complete job-specific training and be certified to ship infectious materials. If proper packaging fails and if there is a spill outside of containment, then follow the same rules and guidelines for response to Spill/Release outside of a BSC.

SOP 7 - KAKA'AKO BSL-3 SHARPS MANAGEMENT

1. For conducting research on MPXV in the BSL3, the use of glass will be kept minimal. Risk assessment must be conducted with the JBF Director and the Biosafety Officer. Alternative methods must be taken into consideration before using any sharps. Buddy system must be followed. **For stock preparation of MPXV, no glass containers will be used.**
2. Place a biohazard sharps container within an arm's reach of the area where sharps are used. Position the biohazard sharps container low enough in the work area so that you can readily visualize the opening. Biohazard sharps containers are available for purchase from laboratory supply companies (e.g., Fisher, VWR, etc.).
3. The disposal of any broken glassware with biohazardous materials directly into a biohazard sharps container. Store reusable sharps in a puncture resistant container, to prevent accidental or unintentional contact. If contaminated with biohazardous materials, reusable sharps should be stored in disinfectant solution until processed.
    a. Sharps MUST NOT be disposed in the regular trash.
4. Avoid handling any broken, contaminated glassware directly by hand, even if wearing gloves. Use a device such as tongs, forceps, brush and dustpan, or even two pieces of cardboard.
5. Biohazard sharps containers will be disposed when they are 3/4 full. Secure the containers to prevent leakage, punctures, and spillage during transport. Sharps containers must be disposed through the UH-EHSO program.
    a. Sharps containers must not enter the regular solid waste stream.
    b. DO NOT overfill biohazard sharps containers.
    c. DO NOT force a sharps item into a container, or retrieve a discarded it

SOP 8 - EMERGENCY RESPONSES TO HVAC AND POWER FAILURE

Should a power outage or an HVAC failure occur at the University of Hawai‘i John A. Burns School of Medicine at Kaka‘ako, these procedures will be followed:

POWER FAILURE

If a power outage does occur while you are working in the BSL3 lab, these labs are designed to run on back-up emergency power so you should not be affected. The back-up power should maintain the negative pressure in the suites as well as in the Isocage™ system. Additionally, the Isocage™ system is an independent unit, which has its own back-up power—the UPS (Uninterrupted Power Supply) has the ability to supply power to the Isocage™ system for 3 to 6 hours, independent of the building systems, which will allow the Isocage™ to maintain negative pressure in the cages. If building power is not restored within the 3 to 6 hour timeframe, the exhaust fans of the Isocage™ will no longer function and the negative pressure of the Isocage™ will continue to draw in environmental air until the pressure is equalized (becomes static, NOT POSITIVE), at which point, the mice will have approximately 15 minutes of Oxygen, and will then suffocate and perish. Note that no air is being exhausted from the cage in this scenario and the DOUBLE HEPA filtration is still in place and functional.

HVAC FAILURE

The HVAC system is a redundant system consisting of two exhaust fans. When one fan becomes inoperable, the backup fan should engage and become operational in just moments. However, if both fans are not operating, the situation will be immediately noticeable, as the suites will no longer hold negative pressure. You will immediately hear the audible alarms, but also see the visual strobe alarms as well in all of the different rooms making up the BSL3 Labs. In addition the BSCs will also sound their individual, independent alarms as well. The only exception will be seen in the Isocage™ system. The HVAC system failure will have NO effect on the Isocage™ itself. The Isocage™ system has complete containment and filtration independent of the building HVAC. The building HVAC serves as to help control the odors from the Isocages™ only, and is not necessary for Isocage™ biocontainment. In fact, there is a special "thimble" connection between the Isocage™ exhaust and the building HVAC specifically designed not to be airtight to prevent the interference of the building HVAC with the Isocage™ function. Again, it is important NOT to have an airtight connection between building exhaust and Isocage™ exhaust in order to prevent interference with the Isocage™ airflow rates and pressure balance.

RESPONSE

However, regardless of the nature of the failure, you should immediately stop working and start to secure any biological agents, animals, and/or chemicals. Depending upon the ongoing procedures following steps should be taken:

1. While conducting following procedures, it is mandatory to wear N95 mask.

2. Remember to close all BSC sashes.
3. Notify Security (692-0911 or 692-1911).
4. Disconnect all equipment that could be damaged by a power surge when electricity is restored.
5. Turn off all appliances and other energy users to reduce the power requirements for restoration.
6. Do not evacuate the building unless instructed to do so by emergency services (HPD, HFD, and JABSOM Security). If you are instructed to evacuate the building, use the emergency EXITs and go to a designated Evacuation Gathering Area to await further instructions from emergency services. (See Diagram for Designated Evacuation Gathering Area below).
7. If instructed to evacuate, follow SOP to exit the lab.

APPENDIX-1: PEST MANAGEMENT PLAN SPECIFIC FOR KAKA'AKO BSL-3

The Kaka'ako, JABSOM, BSL-3 facilities infrastructure meets the standards defined in the 5th edition of the BMBL. Similarly, all BSL-3 experimental practices, and containment practices will be adhered to as prescribed in the 5th edition of the BMBL. The SOP for conducting research with MPXV, is described in detail in the attached SOPs. The BSL-3 facilities at Kaka'ako are under negative pressure and are built according to the CDC and USDA standards as defined in the 5th edition of the BMBL.

General Pest Management Plan

The following describes the JABSOM Kaka'ako Plan for minimizing the risk of insects and rodent vector transmission of hazardous agents from the Level 3 Facilities. Many pests can mechanically transmit disease pathogens and compromise the research environment. As such, integrated pest management (IPM) is an important part of managing a Research Facility. The Plan relies heavily on the education and assistance of JABSOM Facilities Staff who care for JABSOM buildings and grounds. Consequently, it is the policy of the JABSOM Facilities to reduce or eliminate the potential for pest breeding, harborage, and entrance to the research facility. Proper sanitation, good housekeeping, and good building maintenance are key factors to keeping insects and rodents from entering the buildings.

Insects

1. Users of BSL-3 will routinely inspect the labs for signs of insect infestations and notify JABSOM Facilities through a Work Order Request to investigate and trap or treat insects that are found in the building or the surrounding campus grounds.
2. Facilities will contact a Licensed Pesticide Contractor on an as-needed basis to inspect, verify and take proper treatment to eradicate insects in the BSL-3 areas that are affected as well as other areas of the campus. The Contractor shall meet with EHSO to discuss the Pesticide to be used and application to ensure all EPA FIFRA requirements and guidelines are followed and to ensure the safety of the JABSOM Kaka'ako occupants.

Pesticides may only be applied when the lab is closed down for maintenance, i.e. there are no active research being conducted.

Safety: Every effort must be made to insure that pesticide application/exposure is held to a minimum to insure the safety and welfare of JABSOM Kaka'ako Occupants and Research Projects.
Preventive applications of pesticides are not encouraged in any Research Facility. As such, pesticide application(s) are restricted to areas where pest populations cannot be controlled by other means.

Facilities shall monitor the Pesticide Contractor to insure treatment was administered effectively.

Rodents

1. If there are signs of rodent infestations in the Level 3 Labs, the Users shall inspect the areas and capture any rodents. Traps shall be placed throughout the lab. The rodent shall be contained in the Level 3 Lab until an investigation conducted by EHSO is concluded and decisions are made regarding testing the rodent for infection, destruction of the rodent, surveying the facility for ports of entry for rodents, decontamination of the facility, SOP evaluation and revisions as necessary.
2. Careful records of all animals shall be maintained and any unaccounted for rodents shall be reported to the Level 3 Manager and Supervisors, LAS, and EHSO immediately

Mosquitoes

1. JABSOM facilities shall maintain the buildings and grounds according to the general JABSOM Kaka'ako Pest Management Plan to prevent, identify, monitor, and eliminate mosquito-breeding sites and prevent wild mosquitoes from entering the research building. Refer to the General Plan. If wild mosquitoes are able to enter the building, there are several safeguards that prevent the wild mosquitoes from contacting infecting animals or inoculating cultures refer to specific protocol SOPs.

SPECIFIC PROTOCOL IPM

Specific IPM shall be protocol driven.

Moreover, JABSOM Facilities provide building, campus wide monitoring, and protection. The following is the Facilities Management Plan.

Many pests can mechanically transmit disease pathogens and compromise the research environment. As such, integrated pest management (IPM) is an important part of managing a Research Facility. Consequently, it is the policy of the JABSOM Facilities to reduce or eliminate the potential for pest breeding, harborage and entrance to the research facility.

JABSOM KAKA'AKO CAMPUS BUILDINGS AND GROUNDS

Building occupants should routinely inspect their work areas for signs of insect infestations and notify JABSOM Facilities through a Work Order Request to investigate and trap or treat insects that are found in the building or the surrounding campus grounds.

1. JABSOM Facilities will contact a Licensed Pesticide Contractor on an as-needed basis to inspect, verify and take proper treatment to eradicate insects in areas that are affected as well as other areas of the campus. The Contractor shall meet with JABSOM EHSO to discuss the pesticide to be used and application to ensure all EPA FIFRA requirements and guidelines are followed and to ensure the safety of the JABSOM Kaka'ako occupants.

   Safety: Every effort must be made to insure that pesticide application/exposure is held to a minimum to insure the safety and welfare of JABSOM Kaka'ako Occupants and Research Projects.

   Preventive applications of pesticides are not encouraged in any University Facility. As such, pesticide application(s) are restricted to areas where pest populations cannot be controlled by other means.
2. JABSOM Facilities shall monitor the Pesticide Contractor to insure treatment was administered safely and effectively.
3. If there are signs of rodent infestations in the buildings or on the grounds, contact Facilities and complete a Work Order Request. All unaccounted for lab rodents shall be reported to EHSO, Security, and Facilities immediately.

REDUCING THE NUMBER OF MOSQUITOES ON THE JABSOM KAKA'AKO GROUNDS, NEAR BUILDING ENTRANCES, AND IN THE BUILDINGS

Proper sanitation, good housekeeping, and good building maintenance are key to keeping insects and rodents from entering the buildings.

Draining sources of standing water reduces possible breeding areas. In addition, larvicides (to control breeding areas) and other pesticides may be used to reduce mosquito populations.

- JABSOM Facilities shall respond to any standing water problems in the landscape on campus.
- JABSOM Facilities shall schedule preventive maintenance on gutters and downspouts and the fountain in front of the Medical Education Building.
- Potential mosquito breeding areas (wetter areas of landscaping, etc.) shall be inspected periodically and treated with pesticides when mosquito presence is reported. These “trouble” areas shall be monitored periodically to ensure there are no breeding mosquitoes.
- Trash, recyclables, and discarded equipment and materials must be contained in the trash compactor or promptly removed from all collection areas. Any spilled trash outside of the trash compactor shall be reported to JABSOM Facilities and Custodial staff shall promptly remove the trash.

RECORD KEEPING AND PROGRAM EVALUATION

1. Visual sightings or other evidence of any pests shall be reported to the Lab Manager/Supervisors and EHSO immediately and shall be documented.
2. Reports communicated verbally and in writing concerning pest activity will be recorded and kept on file by Lab Manager/Supervisors, Facilities, and EHSO.
3. The Laboratory Director, JABSOM Facilities, and EHSO shall also maintain inspection results for review.

Quality assurance and program review must be performed to provide an objective, ongoing evaluation of pest management activities. EHSO is responsible for evaluating the effectiveness of all pest control procedures implemented and approving or redirecting efforts to control pests found.

APPENDIX-2: SOP FOR TSUNAMI

1. If working in a Biosafety Cabinet (BSC)
    a. Seal all open cultures (this includes putting animal carcasses in a sealed or disinfectant filled container).
    b. Cover pipette trays.
    c. Carefully remove your outer gloves, and leave them in the BSC.
    d. Close the sash to the lowest possible position.
    e. If time permits, animals may be sacrificed and infected cultures may be autoclaved. **NOTE**: If you believe that you are in immediate danger from tsunami, DO NOT perform the procedures described for the BSC and immediately exit the building. The Isocage™ systems which house the animal are waterproof and without power supply, the animal will die in 15 minutes due to suffocation. Freezer and incubator are waterproof. Therefore infected material will not spread into the environment. In worse case scenario when salt water can get into these equipment's, salt water will kill all these infected cultures and animals.
2. If you are working outside of a cabinet, close up any equipment/appliances you are working with.
3. Meet at the designated evacuation points.
4. Stay at the evacuation point and ensure there is full accountability for all personnel that were in the facility. If individuals are missing do not re-enter the facility to find them, but notify police or fire personnel of the number and identity of individuals missing and where they were working in the facility. DO NOT LEAVE ; until you are given the clearance to do so from Emergency Management.
5. If the situation is cleared, and the building can be re-occupied, return to your labs (under the appropriate conditions), and finish/clean up your work.
6. At your earliest possible convenience fill out an Incident Report if a potential exposure occurred.

APPENDIX-3: BOMB THREAT/SUSPICIOUS PACKAGE SOP

BOMB THREAT/SUSPICIOUS PACKAGE

- Called in Bomb Threat:
  - DO NOT hang up on caller
  - Keep them on phone for as long as possible and get as much info as possible
  - Once caller hangs up, contact Security
- Suspicious Package
  - DO NOT open or move package
  - Vacate area and notify Security and Biosafety Offices