

BU Agent Incident Reporting Summary January to March 2020

**CAMPUS	Date of Incident	Incident Type/Agent Involved	BSL	Transmissible Person to Person	Description	*Reportable Incident	Report of Clinical Illness	Agency Reported To	Comments/Corrective Actions
BU Medical Campus (BUMC)									
BUMC	1/16/20	Report of contact dermatitis to nitrile glove use	ABSL2		An animal care technician reported hand dermatitis to nitrile gloves.	No		N/A	Additional investigation was not needed, the animal care technician had already been advised by ROHP to switch to the alternate latex gloves that are being supplied by his department and made available for use.
BUMC	1/27/20	Rat bite to left middle finger	ABSL1		A researcher while wearing Kevlar gloves in the animal science training room, was bitten by a rat he was restraining. No known biologics or hazardous agents were involved with this rat.	Yes		BPHC	In summary, the restraining technique and PPE were both appropriate. The rat was from a ABSL1 laboratory, was non transgenic and did not contain any hazardous agents. "Other" was the best descriptor for root cause, as the rat itself unexpectedly displayed aggressive behavior and was the attributing factor. The researcher followed through with the proper procedures of hand washing and notifying ROHP. The researcher will continue to wear the two pairs of gloves plus Kevlar gloves when performing restraints on rats.
BUMC	1/29/20	Left groin strain	ABSL2		An animal care technician felt a pull in his left groin when a wheel of a monkey cage he was pulling got stuck.	No		N/A	EHS interviewed supervisor and manager on 1/30 and recreated injury event at cage washing room. Photos taken of equipment and work conditions. "Other was the best descriptor for root cause, Manipulating primate cages is physically demanding work. Cages are bulky and heavy. EHS recommended the following to prevent reoccurrence: (1) Ensure metal transition is in place on cage washer before attempting to pull primate cage from washer (2) Consider making any handling of primate cage a 2 person job.
CRC	2/1/20	Mouse bite to left small finger	ABSL1		An undergraduate was bitten by a mouse while wearing one pair of gloves training on mouse handling. The mouse contained no hazardous agents.	Yes		BPHC	A senior lab member was providing oversight and instruction during the task. The undergraduate was inexperienced and trying to weigh the mouse when she was accidentally bitten. The PPE, hand washing and reporting to ROHP were all appropriate. This mouse was from a ABSL1 laboratory, was non transgenic and did not contain any hazardous agents. The root cause was attributed to insufficient skills or expertise. The student is up to date with all the required online trainings and for proficiency will be retrained in mouse handling by the BUASC animal trainer.
BUMC	2/3/20	Exposure to Isoflurane	ABSL1		An animal science staff reports he was counting mouse cages and when he put a folder on a counter resulting in a bottle containing approximately 250ml of Isoflurane fell and broke. This staff reports he went to pick up the broken glass when he felt lightheaded and nauseous. His symptoms resolved immediately with exposure to fresh air.	No		N/A	EHS was notified immediately and responded to clean the reported isoflurane spill. The substance had evaporated, though there was a lot of shattered glass to remove from the floor. The affected lab areas were appropriately decontaminated and the glass was swept up and discarded into a sharps container. "Other was the best descriptor for root cause. To prevent this incidence from happening in the future, EHS suggested for all staff to get familiarized with SDS of hazardous chemicals and first aid procedures. Furthermore, the staff should immediately leave the area if a hazardous substance is released and contact BUMC Control desk, inform manager and seek medical help, if needed.
BUMC	2/6/20	Puncture wound to left middle finger	BSL2		A graduate student accidentally punctured his left middle fingertip with a needle previously used to inject Evans Blue dye into a clean mouse.	Yes		BPHC	EHS met with the researcher for follow up. He accidentally got a needle-stick while trying to inject some blue evans dye into the mouse pad of a clean mouse. He started doing rodent work last fall and to date has performed around 11 of these procedures. The root cause was attributed to insufficient skills or expertise. The researcher expressed feeling rushed and suggested he would allow for more time in the future. He will also utilize forceps moving forward, to keep his hands away from the sharps. EHS advised he complete the sharps safety training on BioRAFT and recommended he review these animal procedures with the BUASC trainer as a refresher.
BUMC	2/12/20	Mouse bite to left index finger	ABSL2		A research technician was bitten by a mouse. The mouse had not been exposed to any biological or chemical agents.	Yes		BPHC	EHS followed up with the research technician. There were no hazardous agents (chemical/biological) involved with this incident and he took appropriate steps to wash the affected area. When accidentally bitten by the mouse, the research technician was being supervised by an experienced colleague. The root cause was attributed to insufficient skills or expertise. All BioRAFT training requirements were up to date. EHS advised the research technician to follow up with the BUASC trainer to acquire more hands on expertise.
BUMC	2/25/20	Mouse bite to left hand	ABSL2		A researcher sustained a mouse bite while in an animal training class. The mouse was a breeding mouse that was never involved with any experiments.	Yes		BPHC	EHS met with the researcher from the tenant laboratory to follow up on the incident. This was a clean training mouse and it was confirmed there were no hazardous agents (biological/chemical) involved with this incident. The root cause was attributed to insufficient skills or expertise. The tenant researcher was unskilled and new at delivering oral gavage. He will follow up with the BUASC trainer until capable of working independently.

BUMC	2/27/20	Percutaneous exposure to lateral left side of palm	BSL2		A Senior Research Associate sustained a needle stick with a needle previously used on a mouse injected with MRSA.	Yes		BPHC	EHS mostly corroborates with the ROHP report from the follow up consultation with the researcher. Please note the correction verified by the researcher that the needle was contaminated with concentrated MRSA but no mouse fluids at the time of injury. She had prepared the needle with MRSA then accidentally received a needle-stick injury and had not dosed the mouse yet. The researcher was wearing appropriate PPE. The researcher is also up to date with required trainings. She is experienced in animal handling and mentioned she routinely performs this technique on large populations of mice every week. Since the researcher was not using genetically modified material or organisms, this incidence was not reportable to NIH. "Other" was the best descriptor for root cause. The researcher attributed this incident to feeling rushed for this particular experiment and will be more mindful when handling sharps in the future and take time as needed.
BUMC	3/3/20	Laceration to left middle finger	ABSL2		An assistant professor sustained a laceration from a razor used on transgenic (GFP reporter) mouse tissue. The mouse was not exposed to any infectious agents.	Yes		BPHC	EHS followed up with the assistant professor and reconfirmed what was reported by ROHP. He had suffered no ill affects from the small laceration and no signs of infection. Also the mouse was confirmed to be a transgenic mouse produced at BU and the incident was recommended reportable to NIH. The root cause was attributed to defective/missing equipment. The assistant professor will take the Sharps training course available on BioRAFT and will only mince the mouse tissue in the standard 10 cm petri-dish going forward in compliance with the standard operating procedure.
BUMC	3/25/20	Excessive exposure of three EHS employees to UV light	N/A		Three staff members may have received excessive exposure to UV-C light despite use of PPE while assessing a decontamination system.	No		N/A	All future radiation exposures will require a Special Exposure Plan approved and signed by the RSO/LSO, and the signature of either the Chair of the RSC or the Executive Director of EHS or their qualified designee. Additional UV dedicated PPE providing greater UV protection will be purchased and used should further survey inside the room be necessary. Additional research will be made to calculate maximum stay time within the room based on the installed lamps and UV-C field.
Charles River Campus (CRC)									
CRC	1/8/20	Possible bloodborne pathogen exposure	BSL2		A PhD scientist called to report he was concerned that he sustained a blood borne pathogen exposure to a cut on his right wrist from overflow of cell culture waste. This researcher reports the BSL2 flask contained human cell lines (commercial HeLa cells, immortal human fetus non cancerous liver cells) and cow serum.	Yes		BPHC	EHS consulted with the PhD student. The root cause was assigned as none identified. The researcher wasn't sure whether or not the contaminants had contacted his pin point cut on his wrist. This incident was considered an extremely low risk for any blood borne pathogen exposure. He confirmed the flask contained BSL2 human cell lines (commercial HeLa cells, immortal human fetus noncancerous liver cells) and cow serum treated with Wescodyne. In the future, the gloves can be saved for evaluation and EHS can conduct a glove leak test to examine the integrity and identify potential holes and/or tears. Appropriate decontamination procedures were reviewed for washing the affected area and immediately following up with ROHP.
CRC	1/8/20	Right thumb laceration	BSL1		A post doc sustained a laceration to her right thumb while washing a clean flask which had not been exposed to biological or chemical hazards.	No		N/A	EHS met with the post doc and PI. The post doc reported she had been washing a large Erlenmeyer flask and was supporting with her left hand on the bottom and her right hand around the neck when she bumped the top/neck against the faucet. The neck of the flask shattered and cut her thumb. The cut was washed with soap and water and it was reconfirmed that a labmate transported the injured post doc to BMC ER for two stitches. Post doc reached out to ROHP following day, but lab staff did not report injury to ROHP, BUOHC or EHS at the time of the incident. The root cause was attributed to not being conscientious and related to broken equipment. Post doc was using good technique when the incident occurred. EHS reviewed incident/accident reporting procedures and emphasized for any case of a life threatening emergency, where someone would need transport to the hospital, the BUPD should be notified to assist with ambulance transport. For less severe injuries/incidents, the lab should consult with ROHP. Abbreviated incident and accident reporting cards were developed by EHS and provided to the teaching labs and the PI will follow up with informing her group.

CRC	1/23/20	Release of hydrogen chloride gas into room air in a physical chemistry lab	N/A		A PhD student accidentally released HCl gas in the laboratory when he used a wrench to loosen a valve.	No		N/A	Two EHS staff immediately responded to the incident. Simultaneously, BUPD responded and had called EMS, Bostong Fire Department (BFD) and HazMat. All occupants exited the laboratory. BFD/HazMat wearing SCBA respirators entered the laboratory to ensure that the tank was shut off and tested the air with a four gas meter. Additional EHS staff arrived at the scene with the building operations manager and together secured the surrounding site while BFD/HazMat was on scene. The PI was informed of the incident and presented on scene. Within a few minutes, BFD/HazMat gave the all clear and indicated that the oxygen levels inside the lab were ok and that the tank appeared to be closed. As described by ROHP, the two students sought medical attention and were evaluated at local emergency rooms. During the incident investigation, it was observed that the experimental setup had a small (~8 LB) tank of HCl chained to the wall just outside the fume hood and a non-metallic hose connecting the regulator to the apparatus. Student 1 confirmed he had not modified the tank in anyway. The graduate student told BUPD that the HCl gas tank did not have a standard knob on its regulator and that he had been attempting to open it with a wrench. At which point, he and a second grad student, who had been spotting for him, both heard a hissing noise from the tank and subsequently had a potential exposure to the corrosive gas. The initial grad student reported that he attempted to close the regulator as they left the area. The root cause was attributed to defective, missing equipment. With steps to prevent recurrence, HCl gas will be moved to a fume hood or gas cabinet. EHS advised the lab to acquire an approved regulator from AirGas with an emergency shut off. EHS will work with the outside vendor to ensure that the new regulator is installed correctly and that the lab staff is properly trained on use of HCl gas. The faulty regulator will be disposed appropriately by the EHS contracted vendor. All corrosive/toxic gases for the laboratory will be added to the chemical inventory on BioRAFT and an SOP will be developed for safe handling practices. Once the engineering and administrative controls are in place, EHS will perform a safety inspection and re-instate authorized toxic/corrosive gas work to continue. EHS will revise the chemical hygiene plan to address the compressed gas program.
CRC	1/27/20	Sharp injury to left hand involving human tissue	BSL2		A PhD student sustained a pinpoint cut from a scalpel she used on frozen (unfixed) human brain material.	Yes		BPHC	EHS reached out to the student and was informed that the test results of the tissue donor showed that the donor was HIV positive. The student was tested for HIV and results were negative and the matter has since been closed. The root cause was attributed to not being conscientious. EHS advised the student to complete the sharps safety training on BioRAFT and be conscious of posture and weight when handling sharp instruments.
CRC	1/27/20	Rat bite to right hand	ABSL1		A undergraduate student researcher reports she was bitten by a rat as she put a water bottle in the cage. The rat was non transgenic and did not contain any medication, biologics or hazardous agents.	Yes		BPHC	EHS had a follow up consultation with the researcher and PI. The rat was non transgenic and did not contain any medication, biologics or hazardous agents. The animal bite happened as the researcher was adjusting a water bottle for a drinking experiment in rats. The researcher reports washing the affected area with soap and water for 15 minutes and then followed up with ROHP. The researcher is currently up to date with required trainings. In addition, PI provided training on handling rats before joining the lab. "Other" was the best descriptor for root cause. To prevent recurrence in the future, EHS reviewed animal handling practices. EHS recommended bite resistant gloves. EHS also provided relevant literature to improve practices.
CRC	1/29/20	Methanol splash to face in an organic chemistry teaching lab	N/A		An undergraduate student sustained a splash from a reaction product containing methanol to her face when the contents of a half filled 2ml vial she was holding slipped.	No		N/A	EHS spoke with the student. She reported that she was capping an LCMS sample when her thumb slipped and 1-2ml of methanol from the vial splashed on her face. She immediately reported the spill to the TF and irrigated her face for 15 minutes. At the time of the incident she was wearing all appropriate PPE, however it was noted that she was not working within a fume hood while performing this task. The root cause was attributed to not being conscientious. EHS advised the student to always work in the fume hood with the sash lowered to the certified height in order to protect against splashes. The TF submitted an accident report for this incident and the information corroborates with the EHS follow up.
CRC	2/10/20	Right thumb burn on hotplate	N/A		An undergraduate student reported she sustained a burn on her right thumb touching a hot plate.	No		N/A	EHS followed up with the student. The student reported she was tidying up her hood and moved a beaker when she bumped her right thumb against her hot hot-plate. The incident was attributed to rushing and not being conscientious. EHS discussed good house keeping practices and recommended the student to clean up while she performs each work task to avoid clutter in the hood and be mindful not to rush in the future.

CRC	2/12/20	Puncture wound to right thumb	N/A		An undergraduate student sustained puncture wound in his right thumb through a single pair of gloves while removing a cap from a clean, new needle.	No		N/A	EHS spoke with the student and reviewed the accident report filed by the instructor. In summary, the student experienced a needle-stick injury while unsheathing a new needle. He pulled the cap out too fast and pin-pricked his right thumb through the glove. Appropriate actions were done to wash the affected area and contact ROHP. The root cause was attributed to this individual not being trained. He reported this was the first time he used a needle in a laboratory setting and wasn't explicitly taught how to use the needle/syringe. EHS recommended the student to take the EHS sharps safety training on BioRAFT and the instructor will include sharps training for the students in the future.
CRC	2/26/20	Chemical spill to left hand	N/A		An undergraduate student in a teaching lab accidentally spilled a chemical of dichloromethane on his left hand.	No		N/A	EHS followed up with the student. He reports he was performing a liquid/liquid extraction in a 15 mL conical tube containing dichloromethane and water solution. He said the cap was not on very tight and it leaked causing the incident. He removed his gloves and washed the affected area with soap and water for 15 minutes and contacted ROHP for follow up. The student stated that the gloves did not look damaged nor did it "crinkle" as is common when dichloromethane degrades nitrile. He did not test the glove for leaks. This incident was attributed to not being conscientious. To prevent recurrence in the future EHS recommend double gloving when performing DCM extractions and check to make sure caps are tightly secured before inverting them.
CRC	2/26/20	Cut to left index finger from pipette with chemical	N/A		An undergraduate student while wearing gloves, lab coat and goggles accidentally sustained a cut on her finger when she accidentally pressed a glass pipette into the bottom of the beaker.	No		N/A	EHS followed up with both the instructor and student. In summary, a glass pipette broke in the student's hand while pipetting a 0.07 M aqueous glycine hydrochloride solution. The broken glass caused a cut on her finger which was bleeding. At the time of the incident, the student was wearing appropriate PPE. The student did not report any burning that would indicate she had sustained any acid burns from the mildly acidic solution. The student's TF called BUPD and EMS. EMS gave the student a bandage but student was not transported for medical treatment. The root cause was attributed to not being conscientious. EHS advised the student to make a practice of examining glassware before use for structural integrity. The student should avoid putting pressure on glass pipettes when dispensing liquids and in the future wash exposed and affected area for at least 15 minutes with soap and water. EHS consulted with the stockroom manager and encouraged routine inspections to remove all damaged volumetric pipettes.
CRC	3/6/20	Unintentional exposure to UV lights	BSL2		Three researchers were accidentally exposed to UV ceiling lights used for disinfection of the room.	No		N/A	EHS consulted with all 3 individuals involved with this incident and the building operations manager. Upon reviewing the room design, the findings were- The UV light switch "signaling IN USE" was set up inside the lab, not outside per recommendation from Radiation Safety when the build-out of the laboratory space was under development. Radiation Safety provided written documentation back in March of 2018 stating that if the UV light is not obvious upon entry, there should be either an interlocked sign, or wiring for the switch such that the UV light and the room lights cannot be illuminated simultaneously. There are 6 ceiling UV lights installed in the room intended to sterilize the room's surfaces. The laboratory work activities include culturing cells inside the biosafety cabinet and examining them under a benchtop microscope. This incident was attributed to missing equipment and lack of awareness/understanding of procedure. At the time of the incident, all three lab members were wearing lab coats and gloves and no protective safety eyewear. The administrative controls that were put in place were not followed after there was training provided by the more experienced lab staff (i.e. velcro taped strip labeled "UV light is on" was not sealing the door at the time of the incident and the door was slightly open. The lab members are told do not enter the room unless they check if the UV light is off. The UV light is routinely turned on at night/end of day. It is not typical for the light to be on during the daytime. To prevent recurrence in the future, the operations building manager has purchased an LED UV "Light in Use" sign with motion sensor wiring and will install it outside of the room. EHS will also be working with the lab to determine if the UV lights property disinfect the room as intended.
CRC	3/9/20	Possible exposure to Hydrofluoric acid to left index finger	N/A		A PhD student thought he may have had an exposure to Hydrofluoric Acid as he noticed a 4mm X 4mm white raised bump/ discoloration on his left index finger. He notified his lab supervisor and coworker immediately, irrigated the site for 15 minutes with water and applied topical calcium gluconate. He denied any systemic concerns and reported no open skin or burning. Later the researcher was not sure if the skin discoloration was from hydrofluoric acid or from something else.	No		N/A	EHS followed up with the PhD student to discuss the incident. He reported he was feeling fine and that the bump had gone away after a couple of hours. He also reported that he removed his PPE according to routine procedures. He stated that he believes he may have gotten a bug bite while outside earlier in the day. The root cause was assigned as none identified and no further course of actions or follow up were necessary.

National Emerging Infectious Disease Laboratory (NEIDL)									
3/5/2020		Possible splash to nasal mucus membrane area	BSL2		A research technician felt a sensation in her nostril as she was adding a lysing buffer to a mini-prep.	Yes		BPHC	EHS followed up with the Research Technician. It is possible that the miniprep kit's buffer solutions made contact with the Research Technician's face either by splash or glove contact. The root cause was attributed to not being conscientious and poor decontamination control. To prevent recurrence in the future, the PI and Research Technician will review the mini-prep procedure with a focus on PPE use and contamination control.
3/11/2020		Needle stick to right index finger with possible Herpes B exposure	ABSL2		A Veterinary Research Support Specialist accidentally sustained a needle stick to his right index finger from a needle previously used to inject anti-inflammatory medication to a macaque.	Yes		BPHC	EHS consulted with the veterinary research specialist and reviewed the experimental setup. The root cause was attributed to lack of awareness/understanding of the procedure and inadequate procedure. To prevent recurrence in the future, Animal Research Core SOP's should be amended to specify that only one person should be utilizing sharps at any given moment. The Animal Research Core staff should then retrain on the changes to the pertinent SOP changes.
Other - Collaborating Laboratory		No incidents							

* Indicates if incident is reportable to local, state or federal agency (e.g. Centers for Disease Control, National Institutes of Health, Boston Public Health Commission, etc.)

**** Campus Location**

BUMC - Boston University Medical Center

CRC - Charles River Campus

NEIDL - National Emerging Infectious Disease Laboratories

Other - work done at collaborating laboratories