Lessons Learned & Success Stories – June to August 2020

The NBACC Mishaps, Lessons Learned and Success Stories Summary serves to reinforce a strong culture of safety and accountability by promoting consistent reporting of mishaps, establishing strong lines of communication with the safety department, supporting a learning environment by allowing others to learn from reported events, and tangibly demonstrating NBACC Leadership's commitment to safety, accident prevention, and continuous improvement.

SUCCESS STORY

1. NBACC has put out guidelines for common hygiene practices for common areas and has been diligent in placing the necessary disinfectants in those areas to allow staff to wipe down common surfaces when needed. A member of Facilities noticed that the laboratory change rooms did not have any supplies to wipe down lockers after use. The staff member considered this a common area that people touch and thought they should be wiping down their locker after use. They talked to Environmental Operations and supplies were put in each change room to allow individuals to clean their lockers after use.

2. A group at NBACC chose to split into two teams and developed schedules so that they would only have direct contact with their assigned team members during the current COVID-19 pandemic. While this required the group to re-organize their entire workflow, the team approach preserves resources, maintains capability and allows the mission to move forward despite a reduction in available staff.

LESSONS LEARNED

1. Our lives right now are far from normal, but even though many of us may find ourselves working very differently, with altered schedules, changes to typical lab work, and use of home offices, many things at NBACC have not changed. Whether you have been out of the lab for a while, or have been in the lab a lot more, it remains important to follow proper protocols. Be sure to continue to report near misses, health issues, and any other required items through the proper channels. Our 24/7 essential services can only be provided through your continued support and hard work.

2. Complacency and fatigue can hinder a great Safety Culture. It is critical that everyone supporting NBACC continues to exhibit the highest standards when performing tasks. We need to lead by example and continue to demonstrate NBACCs outstanding Safety Culture. Please be conscientious in your various work environments, demonstrate intentional focus to training, and do not allow yourself to become complacent or fatigued.

3. An underlying factor in many of this month's reported incidents can be attributed to either complacency or attention issues. No matter how insignificant your task may seem at the moment, be aware that any injury you sustain can snowball into a large effect on your team and projects. You are a *critical* piece of the day-to-day mission at NBACC and we need you to stay healthy, be aware of your

surroundings, and take care of yourself. Similarly, improper operation of equipment can affect the outcome of a project, or can even threaten our fellow staff members' health and well-being

EVENT SUMMARIES

FIRST AID SUMMARIES: In all the following incidents, personnel reported to the Competent Medical Authority (CMA), first aid was applied as necessary, and laboratory restrictions were placed, if needed.

- 05/28/2020 - A staff member was closing a flammable liquid cabinet when they scraped their left knuckle on a plastic padlock latch.
- 05/29/2020 - A staff member showering out of a containment suite bumped their knee on the folded metal bench in the shower.
- 06/18/2020 - A staff member soldering a copper pipe hit the hot fitting with their right elbow.
- 06/24/2020 - A staff member noticed a cut of unknown origin on their right thumb prior to starting their work in a Biosafety Level-3 (BSL-3) laboratory.
- 07/01/2020 - A staff member was putting on lab-dedicated socks and accidentally scraped their left index finger.
- 07/08/2020 - A staff member was grabbing gloves from a box when they scraped their right pinky finger on the edge of the plastic wall-mounted glovebox dispenser.
- 07/13/2020 - A staff member was walking down a flight of stairs when they tripped and fell down one stair before catching themselves.
- 07/17/2020 - A staff member noticed a cut of unknown origin on their wrist when they were washing their hands to leave a containment laboratory.

NEAR MISS SUMMARIES

1. **PPE FAILURE SUMMARY**: 05/23/2020; A staff member working in a BSL-3 laboratory was cleaning up the BSC after working with a Risk Group (RG) 3 agent when their finger scraped the edge of a pipette tip box and tore a small hole in their outer glove. The staff member removed their outer gloves and performed a leak test on their inner glove. After confirming that their inner glove remained intact, the staff member called the Command Center and reported the incident to Health and Safety. The CMA ruled no potential exposure.

2. **PPE FAILURE SUMMARY:** 06/01/2020; A staff member working in a BSL-3 laboratory was reading plates containing a RG3 agent when they noticed that their VersaFlo Powered Air Purifying Respirator (PAPR) unit shut off. The staff member held their breath, returned the plates to the Biosafety Cabinet (BSC) and left the room. The staff member proceeded to the PAPR Staging Area and called Health and Safety. After speaking to a member of Health and Safety, the staff member was able to successfully turn the PAPR on again. The staff member was able to complete their work with the same PAPR unit without issue. The CMA ruled no potential exposure.

3. **SPILL SUMMARY:** 06/10/2020; A staff member working in a BSL-3 laboratory was lifting the lid of an empty liquid nitrogen freezer to surface decontaminate the inside when 500 mL of water spilled from the lid onto the floor. The freezer had been defrosted for two months but the liquid had accumulated in the lid and spilled once it was opened. The staff member immediately shut the lid, placed some absorbent material over the spill and left the room to contact Health and Safety. The staff member was allowed to return to the room and clean up the spill. A representative for the freezer manufacturer confirmed that this was a design flaw of the unit. The CMA ruled no potential exposure.

4. **PPE FAILURE SUMMARY:** 06/12/2020; A staff member working in a BSL-3 laboratory was reading plates containing an RG3 agent when they noticed that their VersaFlo PAPR unit shut off. The staff member held their breath, returned the plates to the BSC and left the room. The staff member proceeded to the PAPR Staging Area and called Health and Safety. After troubleshooting the PAPR unit to determine if the issue was the motor or the battery, it was determined that the motor was the problem and the unit was marked 'out of service. The CMA ruled no potential exposure.

5. **PROCEDURAL FAILURE SUMMARY:** 07/02/2020; A staff member contacted Health and Safety to report that a sharps container was run on an incorrect autoclave cycle. Upon opening the autoclave, the staff member discovered a sharps container despite the autoclave having just completed a 'utensils cycle.' The appropriate cycle for autoclaving a sharps containers is the 'liquid cycle.' After speaking to the staff members that had worked in the laboratory, Health and Safety confirmed that the contents of the sharps container were empty pipette tips that were used with inactivated RNA samples. The utensil cycle was successfully completed, and the autoclave chamber reached the required temperature and run time. Additionally, the sharps container was closed and taped shut and did not appear to have any defect or damage from the previous cycle. The sharps container was run on the correct cycle. The CMA ruled no potential exposure.

6. **PPE FAILURE SUMMARY**: 07/08/2020; A staff member that had been working in a BSL-4 laboratory was exiting through the chemical shower when they noticed that the left cuff of their scrubs was wet. Upon reaching the suit room, the staff member pressure tested their suit (Sperian #305) and noticed a leak near the tape of the left glove and a pinhole near a seam close to the face piece of the suit. The staff member confirmed with a member of Health and Safety that their suit passed the pressure decay test prior to entering containment. The staff member also stated that there were no spills of agent during their time in the laboratory, and the BSC was working properly. The suit was later evaluated and repaired. The CMA ruled no potential exposure.

OTHER OCCURENCES:

REPORTED EVENTS: In all the following, personnel reported the events to Health and Safety, and the events were tracked for trending purposes.

- A staff member working in a Class III BSC spilled a non-infectious sample that was diluted in buffer. The staff member stopped their work, notified their supervisor and cleaned the spill.
- A staff member doing cell culture noticed a glove tear. No agent was present. They removed their gloves, confirmed that their skin was intact, washed their hands and donned a new set of gloves.
- A staff member wore a wedding ring across the line of containment. The ring was bleached out of the containment suite.
- A staff member working in the vivarium began to sweat, have tunnel vision, and felt like they were going to pass out. Upon evaluation, the CMA recommended rest, a cold shower and a snack.
- In two different occurrences, staff members working in different suites reported that their VersaFlo PAPRs shut off. One of the units went into alarm before malfunctioning. After evaluating both motors and batteries, there appeared to be an issue with one of the motors. It will be decontaminated and discarded.
- A staff member noticed that a refrigerator was leaking condensation on the floor of a laboratory after the unit's door was left slightly open for hours. There was no agent being stored in the refrigerator. The water was cleaned up, and there were no other issues with the unit.

- A staff member opened an autoclave after a completed run to discover that a bag of waste had fallen over during the cycle and melted to the wall of the autoclave.

Note: *It should be assumed that staff are wearing a PAPR (minimum APF 25) in events taking place in the BSL-3 laboratories unless otherwise stated.*

Document Definitions:

Event Summaries – Any OSHA recordable mishap or first aid injury or illness.

Near Miss Summaries – Any mishap that requires a potential exposure ruling from the Competent Medical Authority (CMA) or represented a CDC Form 3 submission.

Other Occurrences – Mishaps that do not fit into the other two categories.

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