

<p>Does this incident involve research subject to the <i>NIH Guidelines</i>?</p>	<p style="text-align: center;"><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>If no, this incident does not require reporting to OSP</p>
<p>Institution Name:</p>	<p style="text-align: center;">The University of North Carolina at Chapel Hill</p>
<p>Date of Report:</p>	<p style="text-align: center;">4/21/2017</p>
<p>Reporter name and position:</p>	<p style="text-align: center;">Jessica Poole Interim Biological Safety Officer</p>
<p>Telephone number:</p>	<p style="text-align: center;">919-962-5726</p>
<p>Email address:</p>	<p style="text-align: center;">jmmarsh@email.unc.edu</p>
<p>Reporter mailing address:</p>	<p style="text-align: center;">1120 Estes Drive Ext. Campus Box 1650 Chapel Hill, NC 27599-1650</p>
<p>Date of incident:</p>	<p style="text-align: center;">4/18/2017</p>
<p>Name of Principal Investigator:</p>	

<p>What was the nature of the incident?</p>	<p><input type="checkbox"/> Failure to follow approved containment conditions</p> <p><input type="checkbox"/> Failure to obtain IBC approval</p> <p><input type="checkbox"/> Incomplete inactivation</p> <p><input type="checkbox"/> Loss of containment</p> <p><input type="checkbox"/> Loss of a transgenic animal</p> <p><input type="checkbox"/> Personnel exposure</p> <p><input checked="" type="checkbox"/> Spill</p> <p><input type="checkbox"/> Other (please describe):</p>
<p>Did the Institutional Biosafety Committee (IBC) approve this research?</p>	<p><input checked="" type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>If yes, date of approval: Originally approved 8/2/2011</p>
<p>What was the approved biosafety level of the research?</p>	<p><input type="checkbox"/> BL1</p> <p><input type="checkbox"/> BL2 <input type="checkbox"/> BL2+</p> <p><input checked="" type="checkbox"/> BL3 <input type="checkbox"/> BL3+</p> <p><input type="checkbox"/> BL4</p>
<p>Has a report of this incident been made to other agencies? If so, please indicate</p>	<p><input checked="" type="checkbox"/> CDC <input type="checkbox"/> Funding agency/sponsor</p> <p><input type="checkbox"/> USDA <input type="checkbox"/> State or local Public Health</p> <p><input type="checkbox"/> FDA <input type="checkbox"/> Law enforcement</p> <p><input type="checkbox"/> EPA <input type="checkbox"/> Other (please describe):</p> <p><input type="checkbox"/> OSHA</p>

DESCRIPTION OF INCIDENT:

On April 18, 2017, three researchers (a post doc, a research assistant, and a research associate) were performing work in the BSL-3 laboratory while wearing scrubs, shoe covers, Tyvek suits, double gloves and PAPRs as per lab SOP. Two of the researchers were performing viral titration assays on recombinant mouse adapted mouse lung samples. The mouse lung was homogenized in 1mL of PBS and was then serially diluted 1:10 six times and then 0.2mL of each of the 6 dilutions was added to one of the wells in the plate of vero cells following removal of the media. For each 6-well plate, there was a total volume of 1.2 mL of serially diluted virus per plate. The starting volume of mouse lung homogenate used was 0.05 mL. After adding the diluted virus to the cells, the researcher put the plates into a bin, as a secondary container, and carried them from the biological safety cabinet to the cell incubator. When the researcher was putting the six-well plates, which were stacked in groups of four, into the top incubator, the top plate got caught on the top shelf and the plate dropped. A maximum of 1.2 mL of virus inoculum spilled on the door of the bottom incubator and onto the floor. The plate that dropped contained lung tissue from a male PARK2 -/- mouse, which was harvested at four days post infection and had been infected with 10^5 plaque forming units of mouse adapted

As soon as the spill occurred, the three researchers stopped working and immediately began following the SOP for a spill outside of the biological safety cabinet. The researchers checked the integrity of their PPE, which was intact and verified that no visible virus-containing liquid contaminated their PPE. The researcher soaked paper towels with 70% ethanol and placed them onto the door of the bottom incubator and the floor. They allowed the aerosols to settle for 30 minutes. During the 30 minutes, they notified the lab manager via telephone. The lab manager immediately notified the PI and the interim Biological Safety Officer. The interim Biological Safety Officer contacted the Director of the University Employee Occupational Health Clinic. The Director of the University Employee Occupational Health Clinic determined that the researchers would not need to report to the clinic and that no daily symptom/temperature reporting would be necessary based on the size of the spill and since the researchers' PPE was intact. He did advise them to continue to follow the lab SOP in regards to self daily symptom monitoring and if respiratory symptoms or a temperature appears that they notify the PI and EHS immediately. After 30 minutes, the researchers sprayed the two areas with 70% Ethanol and allowed 20 minutes of contact time. The spill was then wiped up with absorbent paper. The absorbent paper was placed into a biohazard bag. The outside of the biohazard bag was surface decontaminated and placed in a container to be autoclaved. The researchers removed their outer gloves and replaced them with a clean pair of gloves after the decontamination process was complete.

All three researchers are compliant with the required trainings and completed their yearly BSL-3 lab trainings on 12/9/2016. This training includes: respiratory protection, lab procedures, emergency procedures, select agent requirements, medical surveillance, signs and symptoms monitoring, and dual use research of concern. All three researchers are compliant with the University's medical surveillance program and have had their yearly physical.

<p>Has the IBC reviewed this incident?</p>	<p style="text-align: center;"><input type="checkbox"/>YES <input checked="" type="checkbox"/>NO</p> <p>The next IBC meeting will be held on 5/3/2017 and the committee will be informed about the incident.</p>
<p>Please describe the root cause of this incident:</p>	<p>The root cause of the incident was the top plate in the stack hit the top shelf of the incubator, which caused the plate to fall from the stack and the contents inside to spill onto the door of the bottom incubator and the floor.</p>

Describe measures taken by the institution to mitigate any problems identified. For measures identified but not yet taken, please include a timeline for their implementation (use additional space as necessary):

The laboratory procedures and policies were reviewed and it was determined that the policies and procedures that are currently in place addressed the incident appropriately and that no additional polices or procedures need to be implemented.



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April 27, 2017

Jessica Poole, M.S.
Associate Biological Safety Officer
Environment, Health and Safety
University of North Carolina at Chapel Hill
1120 Estes Drive Ext.
Campus Box 1650
Chapel Hill, NC 27599-1650

Dear Ms. Poole:

Thank you for your April 18, 2017 and April 24, 2017, reports to the National Institutes of Health (NIH) Office of Science Policy (OSP) regarding an April 18, 2017, incident in which there was a spill in a biosafety level 3 laboratory at the University of North Carolina at Chapel Hill.

From your report, we understand that researchers were conducting viral titration assays on mouse adapted mouse lung samples. Lung homogenate was diluted and placed into six-well plates. The plates were placed in a secondary container for transfer from the biological safety cabinet (BSC) to the incubator. As one of the researchers was putting a stack of the plates into the incubator, the top plate got caught on the shelf and dropped. You state in your report that approximately 1.2 mL of liquid from the plate spilled onto the door of the incubator and the floor.

As soon as the spill occurred, the three researchers in the laboratory stopped working and followed the standard operating procedure (SOP) for a spill outside of the BSC. The researchers checked the integrity of their personal protective equipment (PPE), which was intact, and also verified there was no visible contamination of their PPE. Paper towels were soaked in 70% ethanol and placed over the spill. Aerosols were allowed to settle for 30 minutes, during which time the laboratory manager, principal investigator (PI) and biological safety officer (BSO) were notified about the spill. The spill was then cleaned appropriately and all surfaces were decontaminated.

The BSO contacted the Director of the University Employee Occupational Health Clinic, who determined that, based on the size of the spill and the fact the PPE was intact, the researchers did not need to report to the clinic. The researchers were advised to follow the laboratory SOP with

Jessica Poole, M.S.

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regards to daily self-monitoring of symptoms, and to notify the PI immediately in the event of respiratory symptoms or a fever.

The actions taken in response to this incident appear appropriate. No further information is required at this time. Please contact Dr. Kathryn Harris, Senior Outreach and Education Specialist, by email at harriskath@od.nih.gov or by telephone at (301) 496-9838 if you have any additional questions.

Sincerely,



Michelle McKinney, M.S., CBSP
Health Science Policy Analyst
Biosafety, Biosecurity and Emerging Biotechnology
Policy Division, NIH

cc: Mary Beth Koza, Director, Environmental Health and Safety, UNC
Carrie D. Wolinetz, Ph.D., Associate Director for Science Policy, NIH
Jessica Tucker, Ph.D., Director, Biosafety, Biosecurity and Emerging Biotechnology Policy
Division, NIH
Kathryn Harris, Ph.D., RBP, Senior Outreach and Education Specialist (contractor), Biosafety,
Biosecurity and Emerging Biotechnology Policy Division, NIH
Laura Cochran, Program Assistant (contractor), Biosafety, Biosecurity and Emerging
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