

Guided Exercises

Anthrax Powder Exercise

90 minutes

Goal: This exercise is to introduce students to concept of risk assessment and experience on emergency response procedure on sampling and decontaminating anthrax powder. The students will collecting anthrax sample from a desk and trash bin. Students will also learn the decontaminating procedures and analysis.

At the end of this guided exercise, students will:

- Know:
 - Know the importance of conducting a thorough risk assessment prior to implementing action plan on the use of proper PPE, collecting samples and decontaminating an affected area.
 - Know the different types of sampling methods, proper sample collections, and how to interpret results.
- Feel:
 - Confident in assessing and mitigating the risk.
 - Knowledgeable on how to sample and decontaminate a contaminated office space
 - Knowledgeable on donning the appropriate PPE for this emergency response.
- Do:
 - How to assess and evaluate the risks for this emergency procedure
 - How to collect samples
 - How to decontaminate a contaminated space

Materials:

- Instructors notes on the guided exercise
- PPE (all disposable nitrile gloves, masks, goggles, gown/lab coat, and boot/foot covering)
- Swabs and cloth (wet/dry)
- Small clear plastic sterile bag (evidence bags)
- Anthrax detection kit
- Notebooks
- Pens
- Markers
- Tape
- Flip chart

- Computer and projector (decon video)
- Glow Germ (fake anthrax)
- Black light
- 0.5% bleach/bottle

Scenario:

The office worker opened an envelope containing white powder at his desk. The office worker called 911 and explained what happened. The paramedics (following the universal precaution of an infected individual) took the office worker to the hospital. The office worker has been placed under universal quarantine conditions at the main city hospital. The office has not been disturbed and locked since the worker left. Your job is to respond to the incident involving a possible anthrax threat. As a group, you will need to assess, discuss and decide what type of mitigation procedures need to be in place and take the necessary precautions prior to gathering the samples, and performing the tests to see if the powder is positive for anthrax.

Instructors Notes:

This exercise will be primarily be inquiry driven, meaning that the students will be given some time to work on the exercise and the instructor will be there to help them work through the activities.

The students will be participating in a mock anthrax contaminated office scenario. The students will be told about glow germ anthrax sample and that it is inside the office. Divide the students into groups of five. Prior to starting the scenario, show the students a video on sample collecting and decontamination of anthrax powder. After, the video, have the student group work together to assess and mitigate the risks, select the appropriate PPE and sample collection kit, and write up a quick action plan/guideline to use prior to entering the office. Once the group finishes the action plan, and don on the appropriate PPE and collect the sampling kits, have them enter the office. After collecting and analyzing the sample, have the students decontaminate area with 0.5% bleach. At the conclusion of the exercise, inspection of the students will determine if they had been exposed to the mock pathogen. Following this, the group will engage in glow germ doffing of PPE, inspected with black light and a hand washing exercise to see how effective their technique in ridding the glow germ.

After the completion of the exercise, review the groups procedures and discuss the differences in risk assessment, mitigation and lessons learned.

For instructor: Glow germ anthrax will have been pre-spread on two key areas inside the office (i.e. desk surface and opened envelope in the trash bin with traces in/out of the bin).

Time	Step: Description of Activity	Notes
2 min	1. Prep office space for the scenario	Place glow germ powder 2 places (i.e. on top the desk surface, dusting on the computer keyboard or outside/inside of a manila envelope in trash with trails of powder going into the trash)
3 min	2. Have all supplies needed for students for this scenario	Place all PPE, and collection supplies (i.e. swab, detectors, notebooks) in the changing room (designated room).
5 min	3. Review Goals, Objectives and scenario	Verbally review the goals of the exercise as well as the objectives listed above and the scenario- read
20 min	4. Prior to entering the office space, the group will put on the proper PPE and take their sampling supplies/kits	Go over the PPE and how to take samples and use the anthrax detection kit. Have students think about the scenario situation and come up with an action plan(i.e. think about sampling strategy, air movement of office, contamination zone, after sampling is completed, how to decon etc.) and don on their PPE
10 min	5. Have students go into the room, assess, take samples, properly bag/label it	Have students use different sampling technique (i.e. wet or dry wipe, wet or dry swab, type of HEPA vacuum if available)Have students place samples in proper sample/evidence box/area *note wet wipe is the best and dry is the least effective
5 min	6. Give student result of the sample	Have a student act out the sample processing/using detection kit
10	7. Have students go back to changing room and doff their PPE and dispose PPE	After students doff/dispose PPE, prior to hand-washing, inspect students hands/clothes with black light to see if the doffing was properly done
15 min	8. Have students go back to changing room to don on PPE for decon and decon the room and then verify. Have students decon surfaces with 0.5% bleach or sporicidal disinfecting agents. After decon, doff PPE or show a movie on using the decon foam fumigation method for anthrax contaminated rooms/buildings	Have supplies ready for decon,
20 min	9. Review and Wrap-Up. The instructor will ask the students what they learned from the overall activity with regard to risks, wearing PPE and proper way of doffing and pathogen contact in the office, and proper decontamination (what to do when supplies and decon materials are not available). Also discuss how responders need to coordinate with the affected	Be sure to highlight any key points that the students are unsure about before wrapping up the exercise.

	individuals that came in contact with the substance (i.e. before sampling begins, talk to the individuals, give instructions etc.).	
90 min total	Dismiss	Evaluation of this exercise will be included in the daily or course evaluation