SIMULATED AEROSOLIZED GERM AND DROPLET SPRAY: QUICK REFERENCE GUIDE

MATERIALS:

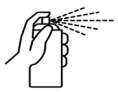
- 1 Small spray bottle (ideally 15 mL or less, but up to 100 mL)
- 1 blacklight (or a homemade DIY blacklight, see the directions at the bottom of the second page for specifics)
- Liquid laundry softener
- A funnel (optional)

HOW TO MAKE SIMULATED AEROSOLIZED GERMS & DROPLET SPRAY:

1. Fill a spray bottle with 50% water and 50% liquid laundry softener.
   - The 50/50 dilution ratio is necessary so that the laundry softener will glow under the blacklight, but also will not be too thick to spray.
   - If the spray bottle is larger than 100 mL, it is not necessary to fill the entire bottle with the simulated germ solution. No more than 100 mL is needed total; the mixture goes a long way.
2. After filling the spray bottle, close the cap.
3. Shake the spray bottle to make sure the laundry softener and water are sufficiently combined.

DIRECTIONS FOR USE IN SIMULATION:

1. When preparing the patient actress in a COVID-19 simulation scenario, first ask the patient actress if she would be willing to spray the simulated germ solution near her masked mouth and have the solution on her hands. If she consents, continue with the directions. If not, the simulated germs can be omitted from the simulation.
2. When the patient actress gets into the bed, spray her hands with the simulated germ solution, and instructed her to rub her hands together.
3. Avoid spraying the floor to prevent participants from slipping on the solution during simulation.
4. Using the Patient Actress Preparation Page in the SimPack™, practice the simulation scenario with the patient actress, including how to hold the small spray bottle in her hand, and how and when to use it as she coughs in the simulation.
5. The patient actress should hold the small spray bottle in her dominant hand.
6. **Instruct the patient actress to NOT spray the simulated germs towards her - this is very important for patient actress safety.**
7. Each time she sees the cough hand signal from the simulation facilitator, she should cough (while wearing a mask), and bring her non-dominant hand to "cover" her cough and place her hand in front of her masked mouth.
8. When coughing, she should keep her fingers on her non-dominant hand spread apart (as in the image on the right), to allow the spray to pass through her fingers.
9. Then, using her dominant hand to hold the spray bottle, she should spray the simulated germs through her spread fingers, in front of the mask, and out and away from her.
10. If there is a delivery in the simulation, instruct the patient actress to tuck the small bottle under her leg, or a pillow, so her hands are free to push the baby out during the delivery.
11. Confirm with the patient actress that she understands how and when to use the spray.



Guide continues on the next page

DIRECTIONS FOR BLACKLIGHT SIMULATED GERM ACTIVITY AFTER SIMULATION:

1. After the simulation is over, and the providers have doffed (taken off) their PPE, say to participants:
   - *Now the group will examine where the infectious droplets have landed. The lights will be turned down or off, and the curtains will be closed.*
   - *Where do you think the infectious droplets are likely to be?*
2. Ask for a few guesses, and then turn the blacklight on and show participants where the infectious droplets are found.
3. Shine the light over the patient actresses' hands, arms, legs, the bed, sheets, IV pole/stand, and examine the provider's doffed PPE, if able to do so. Then say:
   - *Remember that in real life, doffed PPE should never be examined after it has been doffed. This is just for a learning exercise as the "simulated germs" are not contagious and are safe for learning.*
4. It may be difficult to see the germs under blacklight unless participants are able to closely examine the droplets. It may be necessary to call up participants individually to look at the spread, while maintaining social distance measures for safety.
5. When finished, proceed to the debrief.

DIRECTIONS FOR A HOMEMADE - DIY BLACKLIGHT:

MATERIALS:

- Smart mobile phone
- Clear/cello tape
- 1 blue permanent marker
- 1 purple permanent marker
- 1-2 highlighters (yellow, orange or pink)*

1. Place a small strip of clear/cello tape over the flashlight LED opening on a mobile phone (the flashlight is usually found on the back of the phone, right next to the camera lens).
2. Using the blue permanent marker, colour in the area of the clear/cello tape that is directly over the flashlight opening.
3. Place another small strip of clear/cello tape on top of the previous piece, which is now coloured blue.
4. Using the blue permanent marker, colour the tape in the area directly over the flashlight with the blue marker again. When finished, there will be two layers of blue coloured tape.
5. Place another small strip of clear/cello tape on top of the previous one.
6. Using the purple permanent marker, colour the tape in the area directly over the flashlight opening, and over the two previous pieces of tape, now coloured blue.
7. To test the blacklight, take a white piece of paper, and using the highlighters, draw on the paper.
8. Then turn off the lights, and turn on the flashlight on the mobile phone. The markings from the highlighters should vividly appear.
9. If the blacklight is not working yet, repeat steps 3-6.

*If highlighters are unavailable, the blacklight can also be tested with any substances that glow in the dark (including splatters of liquid laundry softener).

Acknowledgments:
Special thanks to Gadget Hacks for the black light instructions, which helped to inform this document: https://smartphones.gadgethacks.com/how-to/hack-turns-any-phone-into-black-light-0164740/

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