

Personal Protective Equipment and Biosecurity during Disease Investigation

Country Presentation for OIE ToT Training

Singapore

Learning Objectives

Disease investigators are able to:

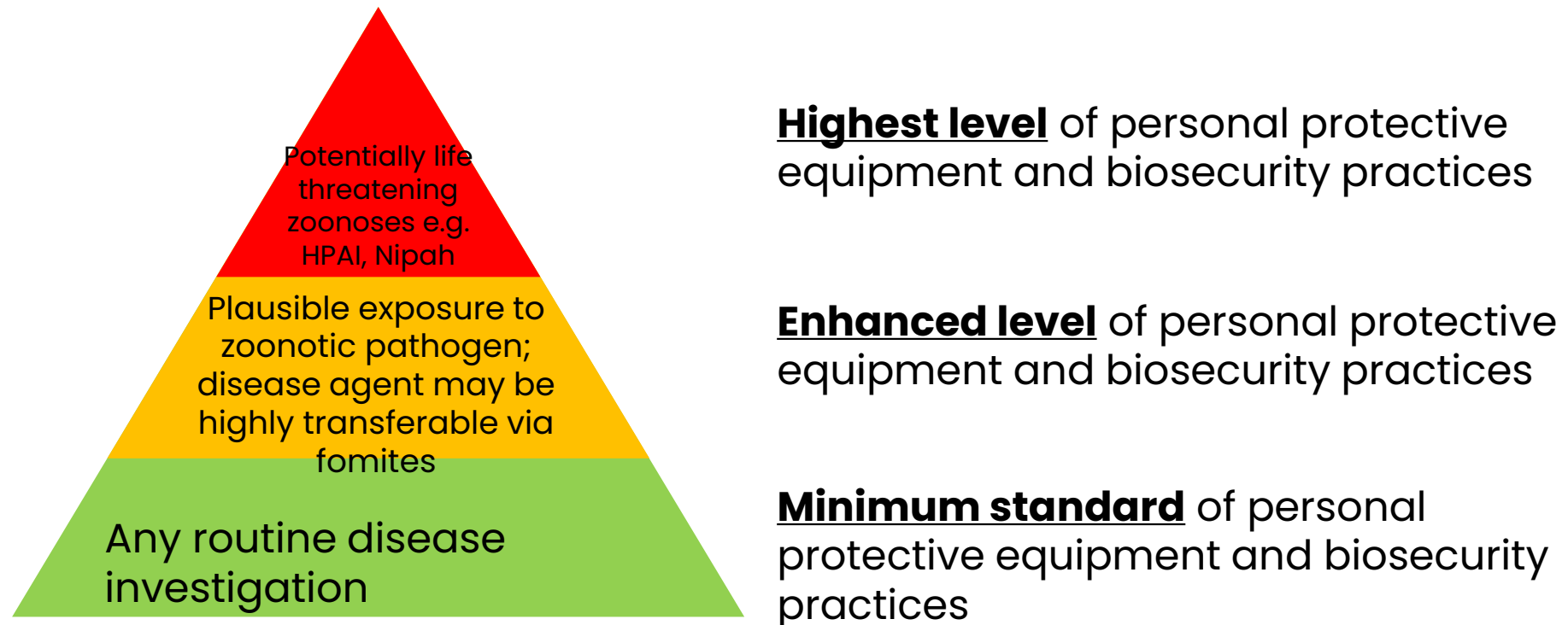
1. Select, don and doff the suitable personal protective equipment for a particular disease investigation
2. Perform risk-based biosecurity measures during a disease investigation, including entering and exiting an infected property
3. Perform appropriate sample packaging

Why biosecurity and PPEs are important for us?

- Protect users from exposure to potentially life-threatening infectious agents
- Prevents unintentional spread of biological hazards by the investigator

Risk-Based Approach

- Level of zoonotic disease risk and disease transmission risk is different for each disease investigation situation



General Components of Biosecurity

Segregation







- Park vehicle away from animals, contaminated areas and farm entrance.
- Take only necessary items into premises.
- Demarcate Clean, Transition and Dirty Zones
- Remove all dirt:
 - Feet
 - Legs
 - Boots
 - Hands

Cleaning

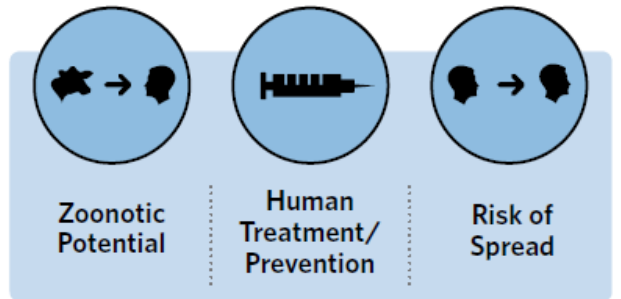
Disinfection

- Disinfect clothes/ boots, equipment, sample secondary packaging, vehicle, hands etc.

Personal Protective Equipment

TO PROTECT	 EAR	 EYE	 HAND	 FOOT	 SKIN	 RESPIRATORY
PPE PROTECTION LEVEL FROM LESS TO MORE	 Ear plugs	 Safety glasses	 Latex or nitrile gloves	 Shoes or boots	 Disposable Tyvek™ suit	 Air Purifying Respirator (APR) N95, N98, N100
	 Safety goggles	 Thick rubber gloves	 Washable rubber over-boots	 Hair cover or hood	 Powered Air Purifying Respirator (PAPR)*	
	 Full-face shield	 Cut-resistant glove	 Disposable plastic boot covers	 Cut-resistant apron		

To select the appropriate level of PPE, consider the following risk factors.



* to be used only during confirmed FAD cases involving a potentially fatal zoonotic agent.

PPEs for Routine Field Call



Eye: none

Ear: ear plugs as needed

Respiratory: none to surgical mask to N95

Street clothes +/- washable or disposable coveralls

Disposable nitrile gloves before handling animals or carcasses

Rubber boots or shoes with shoe covers

After Investigation

- Remove, bag and dispose of used gloves, disposable overalls and waste before exiting property
- Clean boots thoroughly (grooves in soles and outside) prior to exiting property
- Wash hands prior to exiting property
- Clean and disinfect clothes and equipment in a biosecure way

PPEs for Potentially Life Threatening Zoonoses



After Investigation

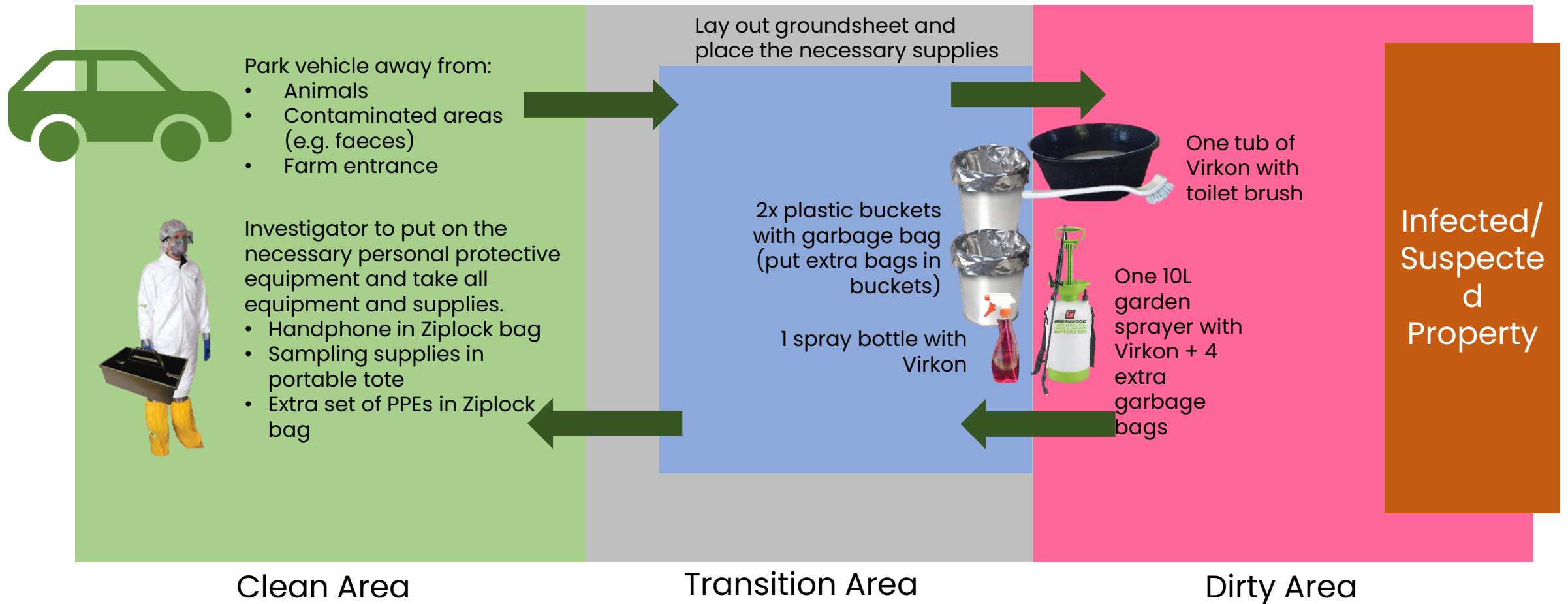
- Remove, bag and dispose of used gloves, disposable overalls and waste before exiting property
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- Wash hands prior to exiting property
- Clean and disinfect clothes and equipment in a biosecure way

Donning and Doffing



High Risk Biosecurity Risk Sites

(Areas with greater suspicion/ likelihood of disease spread)



Best Practices for Sample Collection

Contact the Centre for
Animal & Veterinary
Science

Seek advice on what to sample, amounts needed for testing, differential diagnosis, laboratory registration

Prepare supplies

- Use the disease investigation packing checklist, ensure all supplies are not expired,
- Label all sample containers (and prepare sampling form)

Collect samples
properly

- Maintain hygienic processes and avoid contamination

Label samples properly

- Date of sample collection
- Sample number, that can be linked to more details on the submission form e.g. animal ID
- Type of tissue (e.g. epithelium, vesicular fluid, blood)

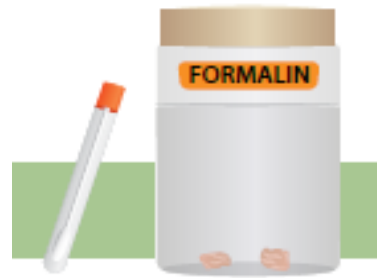
Pack the samples
properly

- Primary, secondary and outer transport container
- Maintaining cold chain

Complete paperwork

- Register the samples and include relevant clinical history

Sample Packaging



A primary container (e.g. blood tube, specimen container) is packed into a secondary container (e.g. Ziplock bag) on the infected property.

- Protect fragile items (e.g. glass) with padding. You may add absorbent material capable of absorbing the entire liquid contents.



Secondary container must have its surface disinfected and be removed from the infected area prior to packaging in the outer transport container



Place gel packs in the outer container (e.g. ice box). Seal the outer container properly.

Quiz Time

Please go to Kahoot.IT to play this simple quiz.

The Kahoot! logo is displayed in white, bold, sans-serif font against a solid purple background. The word "Kahoot!" is centered horizontally and vertically within the upper portion of the purple area.

**Personal Protective Equipment and Biosecurity
during Disease Investigation**

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Kahoot! to reinforce learning objectives. Hope you had fun.

Kahoot!

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Questions (5)

1 - Quiz

PPE is important for field investigators during outbreak investigation. Select the statement that is not true.

2 - Quiz

Which is not a component of Biosecurity?

3 - Quiz

Which of this is not part of the learning objectives for this course?

Show answers



Thank you!