

Vaccination During Animal Disease Emergencies:

Overview



Vaccination procedures may be part of animal disease emergency response activities. Responders should have a basic understanding of vaccination principles to ensure effective efforts.

Vaccine Principles

- Modified live or killed vaccines
- Types used determined by disease, species, availability and approval for use
- **Administration**
 - Parenteral: intramuscular or subcutaneous most common
 - Other: intranasal, needle-free, ocular, oral, spray or topical
- **Withdrawal times**
 - Vaccines used in food animals are subject to mandatory withdrawal times before the animal can enter the food chain.
 - Withdrawal times begin once a vaccine is administered.
 - The withdrawal time for a vaccine will be specified in the vaccine product license.

Vaccine Handling

- **Maintaining a Cold Chain**
 - System used to ensure that vaccines stay within an **appropriate temperature range**.
 - Excessive heat/cold can damage a vaccine, reduce its potency, or render it completely ineffective.
 - Most vaccines do not have detectable changes in appearance that indicates they have been damaged or stored improperly.
 - Devices available to indicate if temperatures have either exceeded or dropped below recommended range.
 - Some vaccines are intended to be refrigerated, while others may be frozen.
 - Do not freeze vaccines that are intended to be refrigerated.
 - Avoid repeated freeze-thaw cycles.
 - Some vaccines are sensitive to light; store in their boxes until ready for use.

- **Vaccine Storage Units**
 - Use dedicated refrigerators or freezers; they should not house food or drink.
 - Avoid temperature fluctuations in the unit
 - Limit number of times door is open
 - Do not leave door open longer than necessary.
 - Do not keep vaccines in the doors or vegetable drawers.
 - Measure and record temperature inside the storage unit at least daily.
 - Ensure a secure power supply. Avoid power strips or outlets controlled by a wall switch, as these circuits may inadvertently be shut off.
- **Diluents**
 - Follow label guidelines for reconstitution
 - Diluents are NOT interchangeable
 - Between vaccine types
 - Between manufacturers
 - Between lots
- **Maintain Sterility of Multi-Dose Vials**
 - Do not remove rubber stopper
 - Wipe with antiseptic before piercing
 - Use a new needle before piercing
 - Do not submerge vial into melted ice/water
 - Label with date/time opened or reconstituted
- **Receiving Vaccines**
 - Inspect immediately upon arrival for:
 - Signs of physical damage
 - Expiration date
 - Sufficient diluent included
 - Cold chain maintained
- **Transporting Vaccines**
 - Maintain cold chain
 - Diluents should travel with corresponding vaccines
 - Note packing time
- **If the Cold Chain is Broken**
 - Any indication that a proper temperature has not been maintained:
 - Mark the vaccine "DO NOT USE"
 - Contact supervisor for further instructions
 - Do NOT immediately discard the vaccine unless directed to do so

➤ Preventing Disease Transmission During Vaccination

- Maintain basic biosecurity
 - Wash hands
 - Wear gloves
 - Use new needle
 - Disinfect reusable equipment
 - Dispose of trash on-site
 - Wear disposable shoe covers/boots

➤ Record Keeping

- Individual and/or group animal IDs
- Name, address of animal owner
- Species, age, sex, breed of animals
- Date of vaccination
- Route, location of vaccination
- All vaccine information
- Include withdrawal time

Personal Safety When Vaccinating

➤ Responder safety is the highest priority.

➤ Be cognizant of risks

- Needle sticks
 - Needlestick injuries are one of the most common hazards when vaccinating.
 - To avoid injury and minimize risk, do not recap needles.
- Vaccine exposure
 - Some modified live vaccines can infect personnel and many killed vaccines use adjuvants which can cause severe tissue reactions.
 - If vaccine exposure is suspected, seek medical attention.
- Sharps disposal
 - Properly dispose of used needles in an approved sharps container.
- Animal hazards
 - Use proper handling and restraint techniques when working around animals; have sufficient assistance when restraining animals for vaccination.
- Environmental hazards
 - Beware of direct and indirect environmental hazards, such as falling due to slippery surfaces.
 - Heat stress or cold-related illness may also occur due to temperature extremes.
 - Comply with incident requirements regarding PPE and equipment

Additional Resources

USDA Foreign Animal Disease Preparedness (FAD PRoP) Guidelines and Standard Operating Procedures: Vaccination for Contagious Diseases

http://www.aphis.usda.gov/animal_health/emergency_management/downloads/nahems_guidelines/fad_prep_nahems_guidelines_vaccination_7-26-11.pdf

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