Veterinary Health Center
Infection Control Plan
Reviewed November 2023

https://iweb.vet.k-state.edu/depts/vhc/pdf/Infection_Control_Plan.pdf

Veterinary Health Center

MANHATTAN, KANSAS

DISCOVER. TEACH. HEAL.

Mission Statement

The Veterinary Health Center's mission is to provide superior veterinary medical education, quality patient care and exceptional customer service in a caring environment.

Printed copies available:

Small Animal ICU (B149 Mosier)
Large Animal Records Room (J104 Mosier)
Director's Office (A106 Mosier)
Emergency/Discharge Desk (B141 Mosier)
Large Animal Isolation (J191 Mosier)

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Veterinary Health Center
Infection Control Plan

Date of Plan Adoption: December 2009

Date Updated: November 2023

Date of Next Review: November 2024

Infection Control Officer: Dr. Elizabeth Davis, Associate Dean of Clinical Programs

This plan will be followed as part of our practice's routine procedures. The plan will be reviewed at least annually.

Personal Protective Actions and Equipment

Hand Hygiene: Perform hand hygiene between examinations of individual animals or animal groups (e.g. litters of puppies or kittens, groups of cattle) and after contact with feces, body fluids, vomitus, exudates, and articles contaminated by these substances. Perform hand hygiene before eating, drinking, or smoking; after using the toilet, cleaning/disinfecting animal cages, contact with environmental surfaces in animal-care areas, handling laboratory specimens and/or removing gloves; and whenever hands are visibly soiled. Keep fingernails short. Do not wear artificial nails or hand jewelry when performing medical procedures on patients. Keep hand-washing supplies stocked at all times.
All Staff responsible: Veterinarians, Veterinary students, Veterinary Nurses, Veterinary Assistants and Animal Caretakers.

Correct hand-washing procedure:
- Wet hands with warm/hot running water
- Place soap in palms
- Rub hands together to make a lather
- Scrub hands vigorously for 20 seconds
- Rinse soap off hands
- Dry hands with a disposable towel
- Turn off the faucet using the disposable towel to avoid hand contact

Correct use of hand rubs:
- Place alcohol-based hand rub in palms
- Apply to all surfaces of hands
- Rub hands together until dry

Gloves: Examination gloves may not be necessary when examining or handling healthy animals. Wear gloves when performing soft tissue or body fluid aspirations and while performing venipuncture on animals suspected of having an infectious disease. Wear examination gloves when touching feces, body fluids, vomitus, exudates, and non-intact skin. Wear examination gloves for

dentistry, resuscitations, necropsies, and obstetrical procedures; when cleaning/disinfecting cages, litter boxes, environmental surfaces and equipment in animal areas and when handling dirty laundry, handling diagnostic specimens (e.g., urine, feces, aspirates, or swabs), and/or when handling an animal with a suspected infectious disease. Wear gloves if you have wounds or compromised skin integrity of the hands. Change gloves between examination of individual animals or animal groups (e.g., a litter of puppies), between dirty and clean procedures performed on the same patient and/or when torn. Gloves should be removed promptly; in a manner to limit skin contact with soiled gloves and disposed of after use. Disposable gloves should not be washed and reused. Hands should always be washed immediately after glove removal.

Facial and Eye Protection: Wear facial and eye protection for the following procedures: lancing abscesses, flushing wounds, dentistry, nebulization, suctioning, lavage, obstetrical procedures, and necropsies. Use a face shield or goggles with a surgical mask whenever splashes or sprays are likely to occur. Goggles provide superior protection from infectious materials compared to safety glasses, which are designed for impact protection. Goggles should be worn under face shields. Of particular note: Goggles are required when working with animals suspected to have rabies or any other infectious disease that could be transferred by corneal or conjunctival contact.

Respiratory Tract Protection: Use a molded particulate respirator (N99) located in G112-A when exposure to airborne pathogens is likely. Use respiratory protection following OSHA regulations. Refer to respiratory protection flow charts.

Face fitting respirators are to be used for protection when working with hazardous materials. Respirator Physical training and fit testing are required for use of face-fitting respirators in compliance with Kansas State University Environmental Health and Safety Respiratory Protection Protocols. The protocols require an annual medical determination by Lafene Health Center physicians that the worker is healthy and physically able to perform the work and wear the equipment. The protocol also requires that fit testing be conducted prior to issuing a worker a respirator and every twelve months thereafter. Supervisors are responsible for assuring and documenting that annual training and fit testing for each supervisee are accomplished.

Protective Outerwear: Wear a protective outer garment such as a laboratory coat, smock, non-sterile gown, or coveralls when attending animals and when conducting cleaning chores in animal areas. Wear gloves when performing soft tissue or body fluid aspirations and while performing venipuncture on animals suspected of having an infectious disease. Protective outerwear should be changed after handling an animal with a known or suspected infectious disease, working in an isolation room, after performing a necropsy or other high-risk procedure, and/or whenever soiled. Shoes or boots should have thick soles and closed toes and be impermeable to water and easily cleaned. Disposable shoe covers or washable boots should be worn when heavy quantities of infectious materials are present or expected. Impermeable outwear should be worn when heavy quantities of infectious materials are expected. Garments should be changed and laundered daily, and whenever they become visibly soiled or contaminated. Coveralls should be changed and boots cleaned between farm premises/facilities/locations/herds. Protective outerwear should not be worn outside of the work environment. Keep clean outer garments available at all times.
Staff responsible: Veterinarians, Veterinary Students, Veterinary Nurses, Veterinary Assistants and Animal Caretakers

Protective Actions during Veterinary Procedures

Patient Intake: Avoid bringing aggressive or potentially infectious small animals in through the reception area. If they must come through the main entrance, carry the animal, place it on a gurney or in a roll cage so that it can be taken directly into a designated examination room. Large animals will be moved at the direction of section faculty or staff and must be under control or containment at all times.

Animal Handling and Injury Prevention: Take precautions to prevent bites and other animal-related injuries. Identify aggressive animals and alert clinic staff. Use physical restraints, muzzles, bite-resistant gloves, and sedation or anesthesia as necessary in accordance with practice policies. Plan an escape route when handling large animals. Do not rely on owners or untrained staff for animal restraint.

- If there is concern for personal safety, notify: Supervisor, Faculty Section Head, Hospital Administration
- When injuries occur, wash wounds with soap and water, then immediately report incident to: Supervisor, Faculty Section Head, Hospital Administration and then College of Veterinary Medicine (CVM) Human Resources
- If medical attention is needed contact:
    - Life Threatening Injuries: *Call 911 or arrange immediate transportation to Ascension Via Christi – 1823 College Avenue, Manhattan, KS 66502
    - Non-Life Threatening Injuries:
        - Employees & Student Workers
            - Complete the incident report through the online portal: https://www.k-state.edu/safety/incident-reporting-form.html
            - The employee and supervisor should contact the 24/7 Nurse Triage Program at 833-756-2007 to receive additional health related instructions or care.
            - If the employee's supervisor is not available a member of the CVMHR team can assist during normal business hours 785-532-3042 or email cvmhr@vet.k-state.edu.
            - Appointments are usually facilitated through Ascension Via Christi Occupational Health – 315 Seth Childs Rd. Manhattan, KS 66502 (North of Home Depot).
            - KSTAT Urgent Care – 711 Commons Pl, Manhattan, KS 66502
        - Veterinary Students
            - Complete a student accident report from Clinical Sciences
            - When appropriate call Lafene Health Center – 532-6544
              1105 Sunset Ave. Manhattan, KS 66502
- Bite incidents will be reported to:
    - VHC Hospital Administration
    - Riley County Animal Control – 785-537-2112. Ask for Dispatch. They will take your information and contact animal control. Make sure you tell the Dispatcher you actually need to speak to Animal Control so you can relay the appropriate message.

(If you do not speak to an Animal Control employee, the Dispatcher may think it is a Good Sam pickup.)

Examination of Animals: Patients must be adequately restrained to prevent human exposures from bites and scratches. Sedation should be used when appropriate. Keep patients with potentially infectious disease in a designated examination room or stall until diagnostic procedures and treatments have been performed.

Injections, Venipuncture, and Aspiration Procedures: Trained personnel should restrain animals to minimize needle stick injuries due to animal movement. Do not: bend needles, pass an uncapped needle to another person, walk around with uncapped needles, remove an uncapped needle from the syringe by hand, place a needle cap in the mouth. Do not recap needles (unless the one-handed scoop method is used).

One-Handed Scoop Method for Recapping Needles:

- Place the cap on a horizontal surface
- Hold the syringe with attached needle in 1 hand
- Use the needle to scoop up the cap without use of the other hand
- Secure the cap by pushing it against a hard surface

Dispose of all sharps in designated containers. After injection of live vaccines or performing soft tissue or body fluid aspirations, dispose of the used syringe with the needle attached in a sharps container. Otherwise, you may remove the needle with forceps and throw the syringe away in the trash. Do not transfer sharps from one container to another. Replace sharps containers before they are completely full. Place used containers in designated areas for pickup by Animal Caretaker, Veterinary Nurse, or Veterinary Assistant Staff who will transfer them to room G112-D (Stairwell 105 – Outside biohazard pickup) daily for pickup by University Environmental Health and Safety personnel. Designated drop off areas for used containers are:

- B116 – Small Animal Services
- H116 – Equine Services
- J113 – Livestock Services
- J191 – Large Animal Isolation

Staff responsible: Veterinarians, Veterinary students, Veterinary Nurses, Veterinary Assistants, Animal Caretakers, Pharmacists, Pharmacy Technicians

Dental Procedures: Wear protective outerwear, head cover, gloves, and facial protection when performing dental procedures or when in range of splashes or sprays (such as when monitoring anesthesia).

Resuscitation: Wear gloves and facial protection. Use a manual resuscitator, anesthesia machine, or ventilator to resuscitate animals. When possible bag-mask or mouth-to-snout ventilation. Reference: Veterinary Emergency Critical Care Society 2012 – Page S28: https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1476-4431.2012.00753.x

Obstetrics: Wear gloves or shoulder-length sleeves, facial protection, and impermeable outerwear.

Necropsy: All hospital necropsies are performed by the Kansas State Veterinary Diagnostic Laboratory. Post-mortem tissue harvest prior to necropsy will be performed under direct faculty supervision using gloves, facial protection and outerwear.

Diagnostic Specimen Handling: Wear protective outerwear, gloves and eye protection as necessary. Handle feces, urine, vomitus, aspirates, and swabs as if they were infectious. Discard gloves and perform hand hygiene before touching clean items (e.g., keyboard, telephone). Eating and drinking are not allowed in laboratories.

Wound Care and Abscesses: Wear protective outerwear as indicated and gloves for debridement, treatment, and bandaging of wounds. Facial protection should also be used when lancing abscesses or lavaging wounds. Discard used bandages as indicated. Handle used scissors, clipper blades and other equipment as if contaminated. Perform hand hygiene after removing gloves.

Feeding of raw meat diets: Raw meat-based diets for cats and dogs may contain a variety of enteropathogens including *Salmonella* spp*, Clostridium difficile, Clostridium perfringens, Escherichia coli* and *Campylobacter* spp. Animals fed raw diets may shed high levels of pathogens in their feces, therefore, raw diets and feces from animal fed raw diets may pose a risk to other patients, hospital personnel, and may contaminate the environment. As a result:

- Raw meat diets will not be fed to any dog or cat at the VHC. Owners who request that raw meat diets be fed to their pets will be informed that the risks associated with such diets precludes their use in the VHC.
- Infectious disease should always be strongly considered in any animal that develops diarrhea while on a raw meat diet. Patients who develop signs of systemic illness, have severe diarrhea, or are suspect of having infectious disease for other reasons, should be placed in isolation.

Environmental Infection Control

Cleaning and Disinfection of Equipment and Environmental Surfaces: Wear gloves when cleaning and disinfecting cages and other surfaces in animal areas. Perform hand hygiene afterwards. Clean surfaces and equipment to remove organic matter, and then disinfectant according to manufacturer's instructions. Clean and disinfect animal cages, gurneys, roll cages, toys, and food and water bowls between uses and whenever visibly soiled. Clean litter boxes at least once daily. Keep clean items separate from dirty items.

Isolation of Infectious Animals: Put animals with an infectious disease in isolation as soon as possible. Clearly mark the room or cage to indicate the patient's status, and describe additional precautions. Limit access to the isolation room. All persons entering Small Animal Isolation will swipe their CVM ID card at the reader located outside the isolation door (B156 Mosier). The entry log can be generated daily by CVM Security and when needed will be filed in the Hospital Director's Office (A106) by the Assistant to the Director. All persons entering a Large Animal Isolation stall will swipe their CVM ID card at the reader located outside the isolation supply room door (J191 Mosier). The entry log can be generated daily by Security and when appropriate or necessary will be kept in the Hospital Director's Office (A106) by the Assistant to the Director.

Keep only the equipment needed for the care and treatment of the patient in the isolation room, including dedicated cleaning supplies. Personal Protective Equipment (PPE) should be donned immediately prior to care of the animal in isolation and removed just prior to leaving isolation. Discard gloves after use. Leave reusable personal protective equipment (e.g., gown, mask) in the isolation room. Clean and disinfect or discard protective equipment between patients and whenever contaminated by body fluids. Disassemble and thoroughly clean and disinfect any equipment that has been used in the isolation room. Place potentially contaminated materials in a bag before removal from the isolation room.
Staff responsible: Faculty Section Heads, Assistant to the Director and/or Hospital Administrative Assistant, Veterinarians, Veterinary Students, Veterinary Nurses, Veterinary Assistants, and Animal Caretakers

Suspect Animal: When working with animals that may have a zoonotic, infectious disease outside of isolation unit, a clear, warning sign should be placed on the cage or stall which describes the condition of concern and additional precautions that are needed. In addition, an infectious disease log sheet must be maintained and attached outside the stall or cage. All individuals working with the animals must list their name, date of the contact, phone number and exposure level. The log becomes part of the medical record. Warning signs can be generated through the VHC Office.**Once an animal is confirmed to have an infectious disease it must be transferred to an isolation ward or stall**.

Handling Laundry: Wear gloves and protective outerwear when handling soiled laundry. Check for sharps before items are laundered. Wash animal bedding and other laundry in the facility with standard laundry detergent and completely machine dry at the highest temperature suitable for the material. Use separate storage and transport bins for clean and dirty laundry. Outerwear to be laundered at home should be transported in a plastic bag, kept separate from household items, washed separately and then thoroughly machine dried. Potentially infectious laundry will be autoclaved prior to washing.

Spill Response and Decontamination: Immediately contain spills and splashes of potentially infective substances with absorbent material (e.g., paper towels, sawdust, cat litter). Use PPE to protect against the potentially infective agent and the cleaning/disinfectant to be used. Consult and follow the label recommendations. When handling spills that are located indoors or in association with small animal patients, pick up material, seal in a leak-proof plastic bag, and clean and disinfect the area. Spills associated with large animal patients should be picked up, sealed in a leak-proof plastic bag and placed in designated containers in the LA isolation unit and the area cleaned and disinfected. Keep clients, patients, and employees away from the spill area until disinfection is completed.

Veterinary Medical Waste: Medical services waste is any solid waste material which is potentially capable of causing disease or injury and which is generated in connection with human or animal care through inpatient and outpatient services.

Infectious medical waste is medical services waste that includes any substance that poses a potential risk of transferring disease to humans or animals. Infectious medical waste should be placed in

sealed biohazard bags and taken to the necropsy area for autoclaving and destruction using the process outlined below.

All infectious medical waste must be placed in autoclave bags at their point of origin, with indicator tape and KSVDL Biohazard tag ties on them. The bags need to have a 1-inch diameter opening in the tie of the bag to allow steam in. A completed KSVDL Biohazard tag must be attached to each bag and the bags must be placed in a wheeled waste transfer cart at their point of origin for transfer to Red Bin labeled VHC located north of the Mosier D-111 outside freezer door for holding until Autoclave processing is available. The tags and the waste transfer cart can be found in Mosier Hall Room G-112D/SW105. Tags are also located in the hallway by Necropsy.

Biohazard bags can be taken to the KSVDL receiving area in wheeled transfer carts for Autoclave Processing any day of the week before 10:30 am (subject to changes due to holidays or mechanical malfunction). Bags are dropped off in the aforementioned bin by D-111 freezer door. The wheeled transfer cart should be returned immediately to Mosier G-112D/SW105.

Additional information may be found in the **CVM Protocol on Biohazardous Animal Waste** located on page 16 of this document.

Solid waste from small animals that is not potentially infectious and is not classified as sharps should be placed in clear plastic bags for disposal in a trash dumpster. Fecal and urine waste from large animals must be collected and placed in approved disposal containers located in the Large Animal Hospital.

Uncontaminated broken glass needs to be packaged in puncture proof packaging and taken to the dumpster. Custodians are not responsible for disposing of broken glass.

Staff Responsible: Veterinarians, Veterinary Students, Veterinary Nurses, Veterinary Assistants, Animal Caretakers

Parasite Control on Animals: All animals with evidence of parasitism must be treated prior to VHC hospitalization. A clinician should select the treatment which will eliminate the parasites as quickly as possible in order to minimize the chances of infestation and transmission.

Rodent and Vector Control: Seal entry portals, eliminate clutter, and sources of standing water, keep animal food in closed metal or thick plastic covered containers, and dispose of food waste properly to keep the facility free of wild rodents, mosquitoes, and other arthropods. Check and treat animals entering the veterinary facility for vector parasites. Staff Responsible: CVM Facilities, Veterinary Nurses, Veterinary Assistants and Animal Caretakers

Other Environmental Controls: There are designated areas for eating, drinking, application of make-up, and similar activities. These activities should not occur in animal-care areas or in the laboratory area. Do not keep food or drink for human consumption in the same refrigerator as food for animals, biologics, or laboratory specimens. Dishes for human use should be cleaned and stored away from animal-care and animal food-preparation areas.

Occupational Health

Infection Control and Employee Health Management: The following personnel are responsible for development and maintenance of the practice's infection control policies, record keeping, and management of workplace exposure and injury incidents.
Staff responsible: Hospital Administrator, Hospital Director, CVM Human Resources

Record Keeping: Current emergency contact information is maintained by CVM HR for every employee. Records provided by employees will be maintained on vaccinations, rabies virus antibody titers, and exposure and injury incidents. Changes in health status that may affect work duties should be reported to CVM Human Resources so that accommodations can be considered. Contacts for CVM HR after hours located at the emergency desk - Assistant Dean for Administration and Finance.

Pre-Exposure Rabies Vaccination: All staff with animal contact are encouraged to be vaccinated against rabies, followed by periodic titer checks and rabies vaccine boosters, in accordance with the recommendations of the Advisory Committee on Immunization Practices (CDC, 2016). **Note:** Only persons who have received the pre-exposure vaccine series are permitted to work with animals suspected of having rabies. This would include any animals with acute neurologic disease where rabies is considered a differential diagnosis. Additionally, vaccination is also required for any persons who work with wildlife or stray animals. It is the individual's responsibility to notify the senior clinician if they are unable to care for an animal because of this requirement (Recommendation of the Compendium of Animal Rabies Prevention and Control, 2016). Rabies titer checks should be completed every two years. Rabies vaccination and titer checks provided in accordance with CDC recommendations are provided to VHC employees at hospital expense if done at the Lafene Health Center on the KSU campus. Contact the office of the Associate Dean of Clinical Programs / Hospital Administrator for more information.

Tetanus Vaccination: Tetanus immunizations should be up to date consistent with human medical recommendations. Report and record puncture wounds, animal bites, and other animal-related trauma. Employees should consult a health care provider regarding the need for a tetanus booster.

Influenza Vaccination: Veterinary personnel are encouraged to receive the current seasonal influenza vaccine. Refer to the Centers for Disease Control and Prevention Web site for guidance (www.cdc.gov). Lafene offers an annual flu vaccine clinic in the CVM annually. Employees are also able to go to Lafene to receive the flu vaccine.

Documenting and Reporting Exposure Incidents: Report incidents that result in injury or potential exposure to an infectious agent to: Supervisor and Human Resources Professional. Information will be collected using KSU required forms and forwarded to KSU Human Capital Services.

Staff Training and Education: Infection control training and education will be documented in the employee training record.

Pregnant and Immunocompromised Personnel: Pregnant and immunocompromised employees are at increased risk from zoonotic diseases. Employees concerned that work responsibilities may put them at increased risk are to inform their Supervisor and CVM Human Resources so that preventive measures may be taken (such as increased use of PPE). The employee may need to communicate with supervisor and CVM Human resources regarding accommodations advised by their health care provider.

Contact Information

Emergency Services Telephone Numbers

Fire – Dial 9, then 911
Police – Dial 9, then 911
Animal Control – Contact the VHC Emergency Desk at 2-4100
Poison Control – ASPCA Animal Poison Control Center at 1-888-426-4435
Suicide Hotline Dial 9, then 988

State and Public Health Resources

Kansas Department of Agriculture
1320 Research Park Dr.
Manhattan, KS 66502
Phone: 785-564-6700
Fax: 785-564-6777
http://agriculture.ks.gov

Kansas Department of Agriculture
Division of Animal Health
1320 Research Park Dr.
Manhattan, KS 66502
Phone: 785-564-6601
Fax: 785-564-6778
https://agriculture.ks.gov/divisions-programs/division-of-animal-health

Kansas Board of Veterinary Examiners
1003 Lincoln St.
P.O. Box 379
Wamego, KS 66547
Phone: 785-456-8781
Fax: 785-456-8782
vetboard@ks.gov
https://kbve.kansas.gov/

Public Health Consultants for Zoonotic Diseases

Kansas Department of Health and Environment
Bureau of Epidemiology and Public Health Informatics
1000 SW Jackson, Suite 110
Topeka, KS 66612-2221
Phone: 877-427-7313
Fax: 877-427-7318
kdhe.EpiHotline@ks.gov
https://www.kdhe.ks.gov/1088/Epidemiology-Public-Health-Informatics

Public Health Laboratory

Kansas Department of Health and Environment
Health and Environment Laboratories
6810 SE Dwight St.
Topeka, KS 66620
Phone: 785-296-1620
www.kdheks.gov/labs

Environmental Protection Agency

EPA Disinfectant Information
703-305-1284
Info_antimicrobial@epa.gov
https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants
US EPA Region 7 Office
11201 Renner Blvd.
Lenexa, KS 66219
Phone: 800-223-0425
Phone: 913-551-7003
Emergency Response Line: 913-281-0991
https://www.epa.gov/ks/forms/contact-us-about-epa-kansas

KSU Environmental Health and Safety Office

Kansas State University
Environmental Health and Safety
135 Dykstra Hall
1628 Claflin Rd.
Kansas State University
Manhattan, KS 66506
Phone: 785-532-5856
Fax: 785-532-1981
safety@k-state.edu
https://www.k-state.edu/safety/

Kansas Department of Health and Environment

Kansas Department of Health and Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366
Phone: 785-296-1600
kdhe.bwmweb@ks.gov
http://www.kdhe.ks.gov/168/waste

Animal Control

T. Russell Reitz Animal Shelter
605 Levee Drive.
Manhattan, KS 66502
Phone: 785-587-2783
animalshelter@cityofmhk.com
https://www.mhkprd.com/203/Animal-Shelter

Riley County Police Department
Animal Control
Phone: 785-537-2112

Reportable or Notifiable Veterinary Diseases

1) State of Kansas Reportable Diseases Statute and Regulations:
   https://agriculture.ks.gov/docs/default-source/statutes-ah/animinal_health.pdf?sfvrsn=20

2) Kansas State University College of Veterinary Medicine Policy:
   http://www.ksvdl.org/about/policies/reporting-procedures.html

Reporting:

The Kansas State Veterinary Diagnostic Laboratory reports cases for which they have provided diagnostic services. Contact 785-532-5650 for questions about this policy.

For questions concerning suspected notifiable infections or foreign animal disease contact:

Dr. Farah S. Ahmed, Environmental Health Officer
State Epidemiologist

Kansas Department of Health and Environment
Bureau of Epidemiology and Public Health Informatics
1000 SW Jackson, Suite 110
Topeka, KS 66612
Phone: 877-427-7317
Fax: 877-427-7318
kdhe.EpiHotline@ks.gov
https://www.kdhe.ks.gov/1440/Infectious-Disease-Epidemiology-Response

Dr. Justin Smith, Animal Health Commissioner

Kansas Department of Agriculture
Division of Animal Health
1320 Research Park Dr.
Manhattan, KS 66502
Phone: 785-564-6601
Fax: 877-564-6778
https://agriculture.ks.gov/divisions-programs/division-of-animal-health

Regulations/Information

Animal Control

City of Manhattan
Code of Ordinances
Chapter 6 – Animals and Fowl
http://cityofmhk.com/250/Code-of-Ordinances

Kansas Department of Wildlife and Parks
Article 20 – Miscellaneous Regulations
115-20-3 Exotic Wildlife; possession, sale and requirements
115-20-4 Possession of certain wildlife
https://sos.ks.gov/publications/pubs_kar_Regs.aspx?KAR=115-20

CVM Protocol on Biohazardous Animal Waste

All biohazardous animal waste is processed through the Kansas State Veterinary Diagnostic Laboratory in Mosier Hall.

The following procedures have been developed by the Kansas State Veterinary Diagnostic Laboratory to decrease the risk of contamination during storage and transport of biohazardous material to necropsy for autoclaving.

Biohazardous material will be placed in certified autoclave bags and the bags must have heat sensitive lead-free autoclave tape on them and they need to have a 1-inch diameter opening in the tie of the bag to allow steam in. All biohazardous bags must be intact to be accepted for autoclaving. Broken or torn bags will not be accepted.

Absolutely no sharps or glass will be put in autoclave bags for disposal. All sharps should be disposed of in certified sharps containers.

Biohazardous material will be transported to the necropsy autoclave in certified autoclave bags contained in a leak proof container (i.e.: Rubbermaid tub) and carted to the necropsy autoclave. These containers should be used to store biohazardous material in the labs/clinics according to regulations. Excess bags of biohazardous material should not be stored in the laboratories/clinics.

It is required that each biohazard bag for the autoclaving process be tagged with a 'KSVDL Biohazard Trash Tag'. This tag is located in the Necropsy Unit and readily available. The information this tag includes: number of bags from said laboratory, date, weight and individual dropping off the biohazard waste to the autoclave.

The necropsy autoclave will run three times a week on Monday, Wednesday, and Friday mornings. Biohazardous materials will be accepted for autoclaving from 8:00 A.M. through 10:30 A.M. on

the specified days and drop offs in Red Bin marked VHC near outside freezer door Mosier D-111 at all times.

If you have questions regarding proper disposal of biohazard waste, please contact KSVDL Necropsy at 532-4349; or KSU EH&S at 532-5856/safety@k-state.edu.

Kansas Statutes

Chapter 47: Livestock and Domestic Animals
Article 12: Disposal of Dead Animals
http://www.kslegislature.org/li/b2015_16/statute/047_000_0000_chapter/047_012_0000_article/

Kansas Administrative Regulations

Kansas Department of Health and Environment
Article 29.-Solid Waste Management
28-29-27 – Medical Services Waste
https://www.sos.ks.gov/publications/pubs_kar_Regs.aspx?KAR=28-29

Medical Services Waste
Technical Guidance Document SW00-01
https://www.kdhe.ks.gov/DocumentCenter/View/5431/Medical-Waste-Management-G---PDF

Kansas Department of Health and Environment

Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366
785-296-1600
Fax: 785-559-4252
http://www.kdhe.ks.gov/168/waste

Occupational Health and Safety

The Kansas Department of Human Resources (KDHR), Industrial Safety & Health Section regulates the University with regard to occupational safety and health. Under KSA 44-363, KDHR, by reference, applies the Occupational Safety and Health Administration (OSHA) standards as found in the Code of Federal Regulations (CFR). K-State Division of Public Safety enforces compliance with federal, state, local and university policies concerning occupational safety and health.

University policies, procedures, guidelines and information concerning safety may be accessed at:
http://www.k-state.edu/healthsafety/

University and CVM Required Safety Training and information may be accessed at:
www.vet.k-state.edu/safety/index.htm

Rabies

Kansas Administrative Regulations
Kansas Department of Health and Environment

Article 1 – Diseases

28-1-13: Rabies control; isolation of mammals causing exposure to rabies for observation and examination; quarantine of mammals exposed to rabies
https://sos.ks.gov/publications/pubs_kar_Regs.aspx?KAR=28-1-13

28-1-14: Rabies control in wildlife mammals
https://sos.ks.gov/publications/pubs_kar_Regs.aspx?KAR=28-1-14

National Association of State Public Health Veterinarians

Compendium of Animal Rabies Prevention and Control, 2016
http://www.nasphv.org/Documents/NASPHVRabiesCompendium.pdf

Kansas Department of Health and Environment

New Guidelines for Management of Animals That Have Been Exposed to Rabies
https://www.kdhe.ks.gov/DocumentCenter/View/14264/Management-of-Animals-Exposed-to-Rabies-PDF?bidId=

Veterinary Standard Precautions

NASPHV Compendium of Veterinary Standard Precautions for Zoonotic Disease Prevention in Veterinary Personnel, 2015, JAVMA, Vol 247, No 11, December 1, 2015, pp 1252-1277 and JAVMA, Vol 248, No 2, January 15, 2016, page 171:
http://www.nasphv.org/Documents/VeterinaryStandardPrecautions.pdf

Veterinary Health Center

Biosecurity Protocols and Procedures

Large Animal

Large Animal General Stall Cleaning Procedure

I. Items needed include a large dumpster, shovel, future fork, broom and squeegee to clean the stall. Hose nozzle, scrub brush, scrub bucket and spray bottle with Signet neutral disinfectant Gloves and boots are worn as barrier protection.

II. Signet neutral disinfectant needs to be diluted per the manufacturer's IFUs.

III. The stall is scooped and swept to remove particulate matter. The stall is then scrubbed with the scrub mixture and then rinsed. Signet neutral disinfectant is applied and allowed to soak for a recommended 10-15 minute contact period. The stall is rinsed completely and squeegeed to remove excess water. The stall is then allowed time to dry completely.

IV. After the stall has dried completely, the stall is wet down, Signet neutral disinfectant is applied and allowed a 10-15 minute contact time. The stall is then rinsed completely and squeegeed to remove excess water and allowed to dry completely.

V. When the stall is completely dried after the second disinfection, cleaning signs are removed and the stall is opened and ready for a new patient.

Equine Services Biosecurity Standard Operating Procedures

I. GENERAL HYGIENE AND ATTIRE

A. General Hygiene/Cleanliness

1. Hands must be washed **prior to and after** examining each patient.

2. Clean exam gloves should be used when handling patients suspected of having infectious diseases and when handling all intensive care cases and equine medicine cases. Examples of intensive care cases include severely leukopenic patients (adult or foal), foals that have not received adequate colostrum, or patients with diarrhea or severe respiratory disease.

3. Instruments and equipment such as buckets, halters, lead ropes, mouth speculums, and twitches will be soaked in Signet neutral disinfectant. Nasogastric tubes and sterile items/instruments will be cleaned with an enzymatic cleaner and return to Central Prep for sterilization. For Foreign Animal Disease (FAD) suspects, all instruments and equipment must be cleaned with high level disinfectant, placed in biohazard bags for

proper termination through Central Prep. Arrangements should be made with Central Prep for processing infectious items. If Central Prep personnel are not available instruments and equipment should be bagged, properly labeled, and stored in cleaning stall in Isolation until Central Prep can accommodate items. Any disposable items should be disposed of and not resterilized.

4. Areas or equipment contaminated by feces, secretions, or blood must be cleaned and disinfected **immediately** by the Veterinary student, Veterinary Nurse, Veterinary Assistant, House officer and/or Clinician handling the patient. **Cleanliness is the responsibility of ALL personnel in the hospital.**
5. Rectal thermometer, stethoscope, hemostats, scissors and other instruments that come in contact with potentially infectious materials must be **cleaned and disinfected** between patients using 70% isopropyl alcohol or 0.5% chlorhexidine available in various areas.
6. Nonessential personnel, children under the age of 10 years, immunosuppressed individuals and individuals without direct patient care responsibilities may not be present in the facilities without direct supervision.
7. Small animals (dogs, cats, reptiles) are not allowed in the facility at any time. Clients that have a small animal with them should be encouraged to stay in the receiving areas.
8. Student backpacks and other personal items should be stored in the Equine conference room. Employees should store personal items in lockers or offices.

B. Attire/Hygiene for Receiving Patients

1. Coveralls or other appropriate clothing (as stated in the student/faculty handbook), and safe, cleanable footwear must be worn at all times. Boots and clothing should be cleaned daily and whenever soiled. This policy applies to all personnel working in the Hospital.

2. Use appropriate footbaths when needed. Signet neutral disinfectant is used for foot bathing in general. Also used for FAD suspect patients.

3. Remove ALL debris from footwear before placing feet into footbath. Scrub shoes with a scrub brush or hose off shoes. Debris on shoes reduces the effectiveness of the disinfectant.

4. Immerse whole tread (bottom) of shoe into disinfectant. Rub shoes vigorously on mat to ensure entire sole has been scrubbed. Use a brush to reach portions of the shoes that are not submerged in disinfectant. Wash entire shoe/boot thoroughly with disinfectant.

5. Disinfectant should be left on footwear after passing through footbath.

6. All persons working in the area are responsible for maintaining cleanliness of the facility.

II. EQUINE OUTPATIENT RECEIVING. Outpatients will not be taken into the Equine ICU tier except when it is critical to case management. They will be stalled in outpatient stalls (1st or 3rd tier) or kept in their trailer.

III. GUIDELINES FOR EQUINE PATIENTS WITH SUSPECTED CONTAGIOUS DISEASE

A. All **Equine patients** with history or clinical signs suggestive of **contagious enteric or respiratory disease** will be examined and hospitalized in isolation (see below for descriptions).

1. Enteric disease includes diarrhea or severe reflux

2. Respiratory disease includes fever, bilateral nasal discharge, farm history of contagious infectious disease (Examples: Equine influenza, EHV-1/4, Streptococcus equi subsp. equi, Purpura Hemorrhagica)

3. Two of the three following clinical signs are suggestive of contagious enteric disease. Any Equine patient with 2 of the 3 listed signs will require hospitalization in the isolation facility. In certain situations an individual may not meet the below listed criteria, yet will require hospitalization in isolation, such as a case of severe diarrhea.
   - Diarrhea/Reflux
   - Fever
   - Leukopenia

4. Any three (3) of the following clinical signs are suggestive of contagious respiratory disease:
   - Tachypnea
   - Fever
   - Cough
   - History of contagious respiratory disease on the farm
   - Bilateral nasal discharge
   - Inflammatory leukogram

B. Isolation

1. Hospitalized animals deemed by the senior clinician to meet the case definition of a **chronic wasting, contagious infectious enteric or respiratory disease** shall be **housed under suitable isolation procedures**.

2. Children under the age of 10 years and immunosuppressed individuals should not enter the anteroom or stalls in isolation. **Any individual who feels that they should not work with an animal with an infectious disease has the responsibility to notify the senior clinician.**
3. **Barrier clothing** (**gloves, disposable boots, disposable gown / coveralls**) must be worn when working with patients with known or suspect contagious infectious disease.

4. Footbaths containing appropriate disinfectant solution should be used following exit from each isolation anteroom. Footbaths must be changed twice daily or whenever soiled, waste water (footbaths and drinking water) should be disposed of directly into the sanitary sewer system. Footbaths should be placed outside the entry door for each isolation anteroom as well as in the isolation treatment preparation room (J191).

Disinfectant	Volume of Concentrated Disinfectant	Label	Expires
Signet Neutral – Parvo Strength	2.25 ounces	Signet 1:57	18 Months
Signet Neutral – Standard Strength	0.5 ounces	Signet 1:256	18 Months
Bleach 1:10	13 ounces	Bleach Solution 1:10	24 Hours

5. When treating a patient for a potentially zoonotic disease, a log of all individuals who come in contact with the animal must be maintained at the site of isolation in accordance with the requirements on p. 8 of this document. The log must contain the names of the individuals, phone numbers, date of contact, and degree of exposure. The log becomes part of the medical record.

6. In the case of a potentially zoonotic disease, the senior clinician responsible for the case must notify radiology, the Veterinary Diagnostic Laboratory and any other service areas that may work on the case, that the animal has an infectious and potentially zoonotic disease.

7. Animals should be taken to isolation and all samples should be taken to the lab by a route that will minimize exposure of other patients and contamination to the facility.

8. Any contaminated area must be cleaned and disinfected immediately by the personnel responsible for receiving/moving the patient.

9. If applicable, put a sign on the patient's stall in the main Large Animal Hospital, to read "DO NOT USE, SPECIAL CLEANING REQUIRED" and note potential or known pathogen on a white tape marker. When a patient is moved to isolation, the caretaker responsible for cleaning that section of the hospital should be notified of the status of that patient with regards to the potential of having contagious infectious disease.

   If the patient requires diagnostic procedures that can only be performed in the main hospital, these should be performed at the end of the day to minimize exposure of other patients, ancillary personnel, and the facility to contamination. Route of spread of the disease and methods to contain the disease should be written on the request form and is the responsibility of the clinician. When possible, these procedures should be performed away from the main hospital.

IV. ATTIRE/HYGIENE FOR FIELD SERVICE AND FIELD INVESTIGATION TRIPS

A. Clean clothing and boots are required attire. If infectious disease is suspected coveralls should be worn on the premises of the farm, placed in biohazard bags, and clean attire should be worn on subsequent establishments.

Recommended footwear: heavy hard-soled work boots or pullover rubber boots
Boots should be cleaned of all organic debris followed by thorough scrubbing with disinfectant after each visit/call.

B. All instruments, including stomach tubes, mouth speculums, and thermometers, should be cleaned and disinfected after each use. If FAD suspect, all instruments must be placed in biohazard bags when leaving the site, cleaned and disinfected by Veterinary Nurse, Veterinary Assistant or Veterinary student and returned to Central Prep. Disposable items should be disposed of and not resterilized.

C. If possible, boots will be scrubbed, rinsed clean, and disinfected at the conclusion of the visit. Boots must be washed clean of all organic matter before disinfection. If water is unavailable, dirty boots and coveralls may be placed in plastic bags and cleaned at the VHC, before entering the facility.

D. Trucks should be washed and the floors disinfected regularly.

V. GUIDELINES FOR HOUSING EQUINE PATIENTS IN LIVESTOCK SERVICES TIERS

A. During late spring and summer months it may be necessary to house Equine patients in the Livestock Services wing of the hospital. In order to protect the health of all large animal patients, physical separation should be maintained between Livestock Services and Equine patients to minimize infectious disease transmission risk. Risks include enteric infectious organisms such as salmonella.

B. Equine patients should be housed in Tier 2 of the Livestock Services wing. (stalls J163-J181, 14 total stalls)

C. Tier 1 will ordinarily be reserved for non-infectious Livestock Services patients. Tier 3 will ordinarily be reserved for infectious Livestock Services patients.

D. Students and Equine patients should exit the Livestock Services wing to I70 through the first corridor (next to J131, 132).

Students (Equine and Livestock Services) must clean up feces in corridors immediately when an animal defecates while being moved.

Livestock Services Biosecurity Standard Operating Procedures

I. GENERAL HYGIENE AND ATTIRE

A. General Hygiene/Cleanliness

1. Hands must be washed prior to and after examining each patient.

2. Clean exam gloves should be used when handling patients suspected of having infectious diseases and when handling all intensive care cases.

3. Instruments and equipment such as buckets, stomach tubes, fluid pumps, funnels, and mouth speculums must be clean before and cleaned and disinfected with 0.5% chlorhexidine or diluted Signet Neutral disinfectant. When applicable, return equipment to Central Supply for complete sterilization.

4. Areas or equipment contaminated by feces, secretions, or blood must be cleaned and disinfected immediately by the Veterinary nurse, Veterinary assistant, Veterinary student or clinician handling the patient. Cleanliness is the responsibility of ALL persons involved in Livestock Services.

5. Rectal thermometer, stethoscope, hemostats, scissors and other instruments that come in contact with potentially infectious materials must be cleaned and disinfected between patients using 70% isopropyl alcohol or 0.5% chlorhexidine available in various areas.

6. Nonessential personnel, children under the age of 10 years and individuals without direct patient care responsibilities are prohibited from entering the Livestock Services Clinic without direct supervision.

7. Small animals (dogs, cats, etc.) are not allowed in the facility at any time.

8. Backpacks, etc. should be stored in the conference room.

9. Gates at the end of each tier should be kept closed.

B. Attire/hygiene for receiving Patients

1. Coveralls or other appropriate clothing, and safe, cleanable footwear must be worn at all times. Boots and clothing should be cleaned daily and whenever soiled. This policy applies to all personnel working in the Hospital.

2. Use appropriate footbaths when needed.

3. All persons working in the area are responsible for maintaining cleanliness of the facility.

II. OUTPATIENT RECEIVING

A. Outpatients will not be taken into the main Livestock Services clinic except when it is critical to case management. They will be stalled in outpatient stalls or kept in their trailer or on the dock.

III. GUIDELINES FOR LIVESTOCK SERVICES PATIENTS WITH SUSPECTED CONTAGIOUS DISEASE

A. All calves and small ruminants with history or clinical signs suggestive of contagious enteric or respiratory disease will be examined and hospitalized in Calf Isolation.

B. Large ruminants with history or clinical signs suggestive of contagious enteric or respiratory disease should be examined on the trailer or in a receiving stall. The clinician is responsible for determining the likely diagnosis and will decide whether the animal is admitted for outpatient surgery, inpatient treatment, or isolation.

C. Any three (3) of the following clinical signs are suggestive of contagious enteric disease:

- Diarrhea
- Fever
- Weight loss
- Septic mucous membranes
- Inflammatory leukogram
- Hypoproteinemia

D. Any three (3) of the following clinical signs are suggestive of contagious respiratory disease:

- Tachypnea
- Fever
- Cough
- Purulent nasal discharge
- Inflammatory leukogram

E. Livestock Services Isolation

1. Hospitalized animals deemed by the senior clinician to meet the case definition of a contagious infectious enteric or respiratory disease shall be housed under suitable isolation procedures. These include: Calf Isolation, a remote and/or cordoned-off stall within the main Livestock Services facility with appropriate barrier clothing and footbath, or the Large Animal Isolation facility. Empty stalls should be maintained on each side and across the aisle from the patient whenever possible. Stalls at the East end of tier 3 should ordinarily be used for mature animals with infectious disease. Calves and small ruminants may also be housed in J144 or J143.

2. For patients in Calf Isolation, follow the protocol described under Appendix A, calf isolation procedures.

3. At the discretion of the senior clinician, barrier clothing **(gloves, disposable gown)** and face/eye protection must be worn when working with patients with known or suspect contagious infectious disease.

4. Animals should be taken to Isolation by a route that will minimize exposure of other patients and contamination to the facility.

5. Any contaminated area must be cleaned and disinfected immediately by the personnel responsible for receiving/moving the patient.

6. If applicable, put a sign on the patient's stall in the main Large Animal Hospital, to read "Do not use, Special cleaning required" and note potential or known pathogen on a white tape marker.

7. If the patient requires diagnostic procedures that can only be performed in the main hospital, these should be performed at the end of the day to minimize exposure of other patients, ancillary personnel, and the facility to contamination. Route of spread of the disease and methods to contain the disease should be written on the request form and is the responsibility of the clinician.

8. When treating a patient for a potentially zoonotic disease, a log of all individuals who come in contact with the animal must be maintained at the site of isolation in accordance with the requirements on p. 8 of this document. The log must contain the names of the individuals, phone numbers, date of contact, and degree of exposure. The log becomes part of the medical record.

9. In the case of a potentially zoonotic disease, the senior clinician responsible for the case must notify radiology, the Veterinary Diagnostic Laboratory and any other service that may work on the case, that the animal has an infectious and potentially zoonotic disease

IV. ATTIRE/HYGIENE FOR FIELD SERVICE, PRODUCTION AND FIELD INVESTIGATION TRIPS

1. Clean coveralls and rubber boots are required attire.

   Recommended footwear: heavy hard-soled work boots and pullover rubber boots. Rubber boots should be worn at all times during dairy and swine visits. Rubber boots should be worn at all times for beef, small ruminant and camelid visits unless deemed otherwise by the veterinarian in charge. Boots should be cleaned of all organic debris followed by thorough scrubbing with disinfectant after each visit/call.

2. A clean pair of coveralls is required for each farm to be visited; students must determine how many farms will be visited each day and plan accordingly. Students are expected to bring a stethoscope, and thermometer.

3. Examination gloves are required when working with adult cows with infectious diseases such as mastitis, pneumonia, or enteritis, and any calves. Change gloves when soiled. Hands will be thoroughly washed when finished working with these patients.

4. All instruments, including stomach tubes, mouth speculums, thermometers, and CMT paddles should be cleaned and disinfected after each use.

5. At the discretion of the senior clinician, eating or drinking may be allowed in the ambulatory vehicles or in designated rooms on the farm.

6. If possible, boots will be scrubbed, rinsed clean, and disinfected at the conclusion of the visit. Boots need to be washed clean of all organic matter before disinfection. If water is unavailable, dirty boots and coveralls may be placed in plastic bags and cleaned at the VHC. Boots and coveralls will be removed and stored on the floor of the truck or under the seat. Boots and coveralls will not be stored in the vet box.

7. Trucks should be washed and the floors disinfected regularly.

Large Animal Isolation Procedures

General Information:
Animals housed in isolation are suspected to be shedding contagious pathogens. It is imperative we follow protocols to the best of our ability for the health of patients housed in the hospital and to reduce risk of zoonotic pathogen exposure to hospital personnel.

Criteria for patients to be transferred to isolation include:

- Leukopenia
- Fever
- Reflux and / or diarrhea

When a patient has two out of three of the signs listed above, housing of the patient in isolation is mandatory.

Additional conditions mandating placement in isolation include: purulent nasal discharge and swollen lymph nodes associated with a *Strep. equi* infection, neurologic disease with loss of tail tone and dribbling urine (Herpes, EHV-1 myelitis EHM), fever of unknown origin, and other infectious diseases.
Protective equipment:

All persons entering isolation must wear protective booties and other appropriate Personal Protective Equipment including face and eye protection. Booties are to remain on at all times in isolation area and discard them before reentering the Hospital. When entering the patient's area we view the following areas as such:

Sink area- is a clean area (work very hard to keep contaminated items from entering this room)

Anteroom- this room is contaminated and booties are required to enter

Patients Stall – boots, gown and gloves are required.

Hands must be washed before leaving patient's stall.

**If a contamination to wardrobe or person occurs, please shower and change clothes (scrubs are available).

Patient care:

While working in isolation safety is a number one concern! Please work in pairs in treating mares with foals, stallions and other fractious animals! Keep the area clean of debris in sink and anteroom area. Be mindful of treatments and be prepared, the less traffic in and out of stalls the less risk of contamination to other parts of the hospital will exist.

A starter box is provided for each patient, this box contains stethoscope, thermometer, pen, needles syringes, and blood tubes. All needed items for the day can be stored in patient starter box. Any items left over after patient is discharged will be thrown away, keep contaminated items to a minimum to reduce unnecessary waste and keep client costs to a minimum.

**Emergency box, oxygen/ tracheostomy pack and diazepam are located in Isolation pharmacy.

Cleaning: Must be performed DAILY or more often when needed.

It is everyone's job to keep things as clean as possible: foot bath needs changed when dirty (minimum once daily), floors swept and disinfect countertop. After items are not in use, inform Veterinary Nurse, Veterinary Assistant or soak in appropriate cleaner for 20 min. Rinse thoroughly and take to drying room stall for final processing by Veterinary Nurse, Veterinary Assistant.

- Foot bath- Signet neutral disinfectant per the manufacturer's IFUs
- Counter disinfectant- Signet neutral disinfectant or Rescue Wipes

Items disinfected with dilute Signet Neutral Disinfectant:

- ITEMS TO BE SOAKED: Halter, lead ropes, cloth like materials, grooming supplies, buckets (cover all surfaces/soak)
- ITEMS TO BE WIPED AND NOT SOAKED: Clippers, Extension cords, ultrasound machine and fluid pumps need cleaned of debris and wiped down thoroughly with dilute Signet Neutral disinfectant. After items are disinfected, items can be restocked for use. (Do not soak!)

Items cleaned with Enzymatic Cleaner ONLY!!! (NO SIGNET NEUTRAL DISINFECTANT):

- Nasogastric (NG) tubes
- Surgical instruments
- Sterile items (any item that is used internally in an animal)

Communication:

Use the dry erase board in the Isolation Preparation Room (J191) area to leave notes of items that need attention for Veterinary Nurse, Veterinary Assistant. Dry erase board is used to designate stalls

ready for use, as well as those in need of restocking. When choosing a stall use only stalls designated as READY. Other options for stalls include neurologic stall and divider stall for mare and foal.

Drying Room:

- In the drying room (Last stall on isolation row at the north end of Mosier Hall), Veterinary Nurse, Veterinary Assistant are responsible for cleaning items.
- Enzymatic cleaner must be used on surgical /sterile items and sent to central prep for processing.
- Signet neutral disinfectant is an appropriate disinfecting agent for most bacterial and viral agents and can be used on the items listed above.
- If the patient is suspect to have Clostridium, Signet is not an effective disinfectant; Bleach must be use at a ratio of 1:10 (1 part bleach + 9 parts water) for 5 minutes.
- Once items have been appropriately disinfected and dried, items can be sent to laundry, bagged and sent to central prep, or redistributed for patient use.

Small Animal

Small Animal General Cleaning Procedures

Wards 1, 3, and 4*:
Take two white towels with you and place one in the cat side and one in the dog side and remove the dirty towels for laundering. *Ward 4 has no floor drain so it is mopped rather than flooding the floor.

A. Front of Wards

1. Dry Mop and Wet Mop the front of Ward
2. Wipe down the exam tables with Rescue wipes or Signet neutral disinfectant spray
3. Wipe down the countertops with Rescue wipes (located under the sink) or Signet neutral disinfectant spray in bottles
4. Remove the trash
5. Clean the drain of debris

B. Sides of Wards

1. Dry Mop and Wet Mop the floor of both sides
2. Clean any dirty cages
3. Remove the trash and take the rolling cart and place it in the hallway
4. Take any dirty bowls to the dishwasher
5. Take any dirty bedding to the laundry room
6. Clean the drains of debris

Ward 2:

Take two white towels with you and place one in the cat side and one in the dog side and remove any dirty towels for laundering.

A. Front of Ward Two

1. Dry Mop and Wet Mop the front of Ward 2
2. Wipe down the exam tables with Rescue wipes or Signet neutral disinfectant spray in bottles
3. Wipe down the countertops with Rescue (located under the sink) or Signet neutral disinfectant spray in bottles
4. Remove the trash
5. Clean the drain of debris
6. Clean exam table and sink

B. Dog side of Ward Two

1. Dry Mop and Wet Mop the floor of both sides
2. Clean any dirty cages
3. Remove the trash
4. Take any dirty bowls to the dishwasher
5. Take any dirty bedding to the laundry room
6. Clean the drains of debris

C. Blood Donor Cat side of Ward Two

*Every Monday the water bowls and towels are replaced with "clean" ones.
*Take a white towel with you for cleaning purposes

1. Cats should be secured in their cages
2. Retrieve litter pans from the closet (use two scoops of clay litter per pan)
3. Let the cats out and remove the towels
   *remove the soiled litter boxes and dump in the trashcan
   *spray the cages with Signet neutral disinfectant and wipe clean
   *refill water bowls if necessary
   *return towels and place cats back into their cages
4. Place a little bit of Ivory soap in to each litter box and spray with water, empty, and turn over to dry
5. Dry Mop and Wet Mop the floor
6. Remove the trash and place on rolling cart in the hallway
7. Clean the drains of debris

D. Dogs in the Runs

*Take white towels and a laundry cart back to the runs

1. Retrieve blankets PT
2. Take one dog out at a time and place in a kennel or simply clean used runs
3. Remove soiled blanket and place in white laundry cart
4. Empty and replenish water bucket

5. Use Signet neutral disinfectant solution allow proper dwell time 5 minutes after cleaning up gross filth
    a. Rinse and squeegee the water and wipe dry with a white towel or air dry case load dependent
    b. Put a clean blanket in the cage for dog or leave empty case load dependent
    c. Place the dog back into the cage and continue to the next dog
    d. Return the soiled linen cart back to the laundry room
    e. Flood the floor in front of the runs behind Ward 1 and Ward 2 with Rescue allow 5 minute dwell the rinse and squeegee it dry

Cage Room:

Dirty *Cages*

1. Remove any dirty bedding and take to the laundry room
2. Remove the cage paper and throw away, remove gross filth
3. Spray the cage with Signet neutral disinfectant allow 5 minute dwell, rinse
4. Wipe the cage down, polish with a Steel One if necessary add a clean cage paper
5. Move the newly cleaned cage over to the other side of the cement wall

Blue *Mats*

1. Remove gross filth and spray Signet neutral disinfectant onto both sides of the mat
2. Allow 5 minute dwell time and rinse with water
3. Drape the blue mat over the cement partition and allow to air dry

Mop *Bucket*

1. Empty mop bucket and replenish with Signet neutral disinfectant ad lib every day

Exam Rooms:

*Every Monday, use Signet neutral disinfectant spray to wipe down the black countertops in the exam rooms

*Every morning the exam room tables need to be wiped down with Signet neutral disinfectant spray

*If there are smudges on the windows, wipe them down as well

Exam Room Cleaning/Disinfection Procedure after Infectious Suspect Patient Exposure

1) Exam room floors
    i) Signet neutral disinfectant per manufacturer's IFUs
    ii) Allow to set for at least 10 minutes
    iii) Repeat mopping
    iv) Allow to air dry

v) If suspect organism is known to be transmitted through the air (Bordetella, etc.) close room from further patients of the same species until the following day.

2) Exam room surfaces and roll cage
   i) Spray with Signet neutral disinfectant
   ii) Allow to set for at least 10 minutes
   iii) Repeat spray
   iv) Allow to air dry
3) Bedding, towels, lab jackets
   i) Place cloth items in separate biohazard bags by type
      (1) Bedding
      (2) Towels
      (3) Lab Jackets
   ii) Label bag with name of suspect organism, bag must be sealed with zip or autoclavable tape prior to taking to Central Prep
   iii) Send to Central Prep for cleaning

Small Animal Surgery Cleaning Procedures

Daily Chores

Bandage Room/Ward 3

- Sweep & Mop Floor (remove and replace rug when needed)
- Clean Countertops
- Clean Computers (Keyboard, Screen, Mouse). Make sure to dust behind computers
- Clean/Disinfect Exam Tables (table, both sides of mat, **base**)
- Clean Exterior of cabinet doors
- Clean scale/cart
- Check all stock & restock if needed
- Wipe Down Chairs (including legs/remove hair from wheels)
- Check paper towels and soap dispenser. Refill if needed (BR and W3)

SA SX OR

- Clean roll cages in recovery
- Dry Mop floor in recovery (including underneath cages)
- Dry & Wet mop floor in nurses station
- Wipe down all lights (Prep Rooms (2), ORs (3))
- Vacuum rugs in recovery, change when needed
- Mop OR rooms with fresh mop water for each
- Wipe down counter tops (Nurse's Station)
- Mop both prep rooms

LAS OR

- Mop Nurses Station
- Mop both annex rooms
- Mop scrub room

- Refill/clean scrub and alcohol containers in induction stall (1/2 to 3/4 full)
- Clean clippers and wipe down counters in induction stall
- Restock fluid warmer
- Wipe down sink in scrub room

Ophtho OR and Exam Rooms (E101, E102, E103)

- Mop OR floor with fresh mop water (Tuesday and Thursday)
- Wipe OR lights
- Clean tables (Exam Rooms)
- Sweep and mop (Exam Rooms)
- Wipe down counter tops (Exam Rooms)
- Clean out sinks (any dishes take to the food room)
- Refill paper towels if needed (Exam Rooms)

Weekly Chores

LAS OR –Monday

- Dust nurses' station (including cabinets)
- Check/Refill soap dispenser and paper towels in nurse's station and induction stalls
- Wipe OR Lights
- Check Stock (refill when necessary)
  - Scrub room (hair nets, shoe covers, masks)
  - Induction stalls (hair nets, shoe covers, masks)
  - Nurses Station (hair nets, shoe covers, masks)

Bandage Room/Ward Services –Wednesday

- Wipe Down Exam Lights
- Clean top of cabinets
- Scrub Sinks
- Wipe down front & back of doors (BR (2), W3 (5))
- Empty room sweep & mop
- Clean Binder Carts (W3)
- Clean all Drains (W3)
- Cat Side Closet (remove all contents, sweep, mop, & wipe down shelves)
- Dog Side Closet (remove all contents, sweep, & mop)
- Dust/Clean shelves

SA SX OR -Thursday

- Wipe out cabinet (Recovery)
- Clean Window's & Sills (Recovery, Nurses Station)
- Wet Mop Floor-make sure to get under cages (Recovery)
- Clean out sinks (Nurses Station (2), Prep Rooms (2), OR (3), Recovery (1) **make sure to get floor around sink**
- Empty Shop Vac (Prep Rooms)
- Wipe Floor Mat (Recovery)
- Refill label drawer of printer (SAS conference room)

Ophtho OR and Exam Rooms (E101, E102, E103)

- Wipe OR window sills
- Wipe down computer keyboards and desk (conference room connected to E102)
- Clean refrigerators (Exam Rooms)
- Sweep and mop (Conference Room)

Monthly Chores

Bandage Room/Ward 3

Every other Saturday

- Remove all contents from room and scrub walls in Ward 3 and Bandage Room
- Replace Alcohol (container, lid, label & content in BR)

Every other Sunday

- Wash walls (dog side and cat side)
- Scrub Cages (Dog side, Cat side, including doors & latches)
- Scrub Runs & Drains (11-23)

LAS OR - Every other Saturday

- Scrub OR Rooms (Walls, Wipe down all equipment, clean all windows)
- Scrub Nurses Station (Walls)
- Empty Vacuums
- Scrub walls in scrub room

SA SX OR - Every other Sunday

- Clean Refrigerator inside and out, behind and under (Recovery)
- Disinfect Walls (All 3 OR's)-try to get pads from Store Room before it is locked

Ophtho OR –Every other Sunday

- Disinfect walls- use blue pads and DO NOT clean any equipment in the room. Just pull it away from the wall and then put it back after cleaning behind it.

Intensive Care Unit Cleaning Procedures

Disinfecting Cages/Runs:

1. After a patient is discharged from ICU, the small and medium sized cages must be sprayed with Signet neutral disinfectant and left to disinfect for 10 minutes before wiping clean with paper towels. Paper towels are disposed of in the trash bins. Runs are sprayed down with the hose, sprayed with Signet neutral disinfectant and left to disinfect for 10 minutes, scrubbed with scrub brush, rinsed again, and squeegeed dry. Exam gloves must be worn at all times when cleaning cages/runs.
2. If a potential infectious agent is suspected or confirmed, refer to the "Disinfectant Protocol" manual located in ICU to determine which disinfectant agent/method is required.

Disinfecting Exam Tables:

1. The exam tables must be disinfected after each patient. Spray Signet neutral disinfectant, leave to disinfect for 10 minutes, wipe clean with paper towels. Paper towels are disposed of in the trash bins. Exam gloves must be worn at all times while cleaning.

Mopping the floor:

1. Floors must be swept and mopped at least once per shift (morning and evening).
2. Exam gloves must be worn at all times when changing mop water and mop head.

Scrub Containers:

1. Scrub and alcohol cotton balls must be changed once/week. Discard old Hibiclens and Isopropyl Alcohol cotton balls and lids to the containers. Disinfect containers with Signet neutral disinfectant. Make new Isopropl Alcohol and Hibiclens cotton balls and replace lids to containers.

Protective Wear:

1. ICU staff must wear scrubs at all times.
2. Students working ICU shifts must wear scrubs at all times.

Weekly/Monthly Cleaning Checklist

WEEKLY	05/02	05/09	05/16	05/23	05/30	06/06	06/13	06/20	06/27	07/04	07/11	07/18	07/25
Change Water in Blood Warmer													
Clean Centrifuge													
Change Scrub and Alcohol													
Change Mop Water													
Wipe Down all Shelves													
Clean Patient Baskets													
Calibrate Refractometer													
Clean Refrigerators													
Clean, Restock & Organize BP Cuffs													
Wipe Down all Computers													

MONTHLY	MAY 2022	JUNE 2022	JULY 2022
Inflate ET tubes and check for leaks			
Vacuum Oxygen Cage Filters			
Check Lights & Send Replacement Order			
Check Expiration Dates			
Deep Clean All Cage Doors			
Deep Clean Drains in Runs			
Deep Clean Storage Rooms (2)			
Clean Table Lamps			

Shift Change Check List	SUN AM	MON AM	TUES AM	WED AM	THURS AM	FRI AM	SAT AM
Re-stock							
Sweep							
Mop							
Trash							
Area picked up/clean							
Does each patient have a drug sheet?							
	SUN PM	MON PM	TUES PM	WED PM	THURS PM	FRI PM	SAT PM
Re-stock							
Sweep							
Mop							
Trash							
Area picked up/clean							
Does each patient have a drugsheet?							
Shift Change Check List	SUN AM	MON AM	TUES AM	WED AM	THURS AM	FRI AM	SAT AM
Re-stock							
Sweep							
Mop							
Trash							
Area picked up/clean							
Does each patient have a drug sheet?							
	SUN PM	MON PM	TUES PM	WED PM	THURS PM	FRI PM	SAT PM
Re-stock							
Sweep							
Mop							
Trash							
Area picked up/clean							
Does each patient have a drugsheet?							

In the event of a pandemic, additional disinfecting checklist is implemented:

Disinfect	Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
	am	pm	am	pm	am	pm	am	pm	am	pm	am	pm	am	pm
Purple Binders														
Drawer Handles														
Counter Tops														
Keypad/Mouse														
Phones														
Laptops														
Pumps														
Chairs														
Emergency Door Button														

Disinfect	Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
	am	pm	am	pm	am	pm	am	pm	am	pm	am	pm	am	pm
Purple Binders														
Drawer Handles														
Counter Tops														
Keypad/Mouse														
Phones														
Laptops														
Pumps														
Chairs														
Emergency Door Button														

Disinfect	Sunday		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday	
	am	pm	am	pm	am	pm	am	pm	am	pm	am	pm	am	pm
Purple Binders														
Drawer Handles														
Counter Tops														
Keypad/Mouse														
Phones														
Laptops														
Pumps														
Chairs														
Emergency Door Button														

General Procedures for Small Animal Isolation

1. Use your own ID badge to get in – if it does not work there is an emergency card in Cubex (under isolation access badge), but please use your own ID.
2. If the patient has a potentially, zoonotic disease, a warning sign and log must be posted at the entrance to isolation. All individuals entering the Isolation area must sign the log, include the date of care, their phone number and the type of exposure. The log becomes a part of the medical record.
3. Put on gown and booties before crossing line on floor. If appropriate, wear eye and face protection. Goggles are to be used for eye protection.
4. Use disposable diapers/pads for cages, there is some bedding in plastic container. (Towels are provided for cleaning patient up)
5. Put in catheter, start fluids, fill out flow sheet as if patient is in ICU
6. Perform diagnostic tests that are asked for by clinician
7. Tape a cage card with patient information to window, so as to be read from ICU
8. Check for supplies and make list of supplies needed
9. Do Not take any equipment from ICU or other location without consulting Internal Medicine Veterinary Nurse or an Internal Medicine clinician.
10. Put all waste in trash can – use biohazard bag for trash can – do not fill more than ¾ full
11. Put dirty laundry in biohazard bag – leave bag on dirty side of line
12. Do not take any dirty or contaminated objects back over the line
13. Take off booties and gown before crossing line
14. Set up foot bath – use prepared solution in gallon jug
15. Any questions contact Internal Medicine Nurse or Internal Medicine Clinician

Isolation Cleaning Procedures

STUDENT-Daily

1. Dispose of all waste in trash can – use biohazard bag for trash (when bag is full, close trash bag with red zip tie, do not close tightly and place near the line on the dirty side).
2. Put any dirty laundry in bag and leave near line on the dirty side.
3. Dispose of any sharps or empty medication bottles in the sharps container.
4. Clean all re-usable equipment appropriately - such as clippers - clean off hair, blood, etc.
5. Wipe down counter tops, other items and areas as needed with prepared disinfectant.
6. Mop floor as needed.
7. Change Foot Bath

Conclusion of Case

1. All Daily procedures
2. Clean cage out and wipe down with disinfectant
3. Wipe down all bottles, sharps container, cabinet, and counter tops with prepared disinfectant
4. Leave trash bags and laundry bags near line on the dirty side
5. Remove cage card and sign from ICU window

CARETAKERS – after the patient has been discharged

1. Enter the room using your assigned KSU Vet Med ID Card
2. Spray all the cages down with Signet neutral disinfectant terminal solution, let dwell 10 minutes and then rinse with water
3. Squeegee the cages
4. Spray the cart, sink, and exam table and other exposed surfaces with Signet neutral disinfectant terminal solution and wipe clean
5. Sweep the floor
6. Mop floor with Signet neutral disinfectant terminal solution
7. All Trash and Laundry bags are tied and placed in biohazard bags, labeled and transported to VHC Red Bin north of D-111 outside freezer door. All biohazard trash is transported to the Diagnostic Lab on Monday, Wednesday, and Friday mornings for autoclaving and disposal or to Red VHC Bin at any time.

Exotic and Wildlife Animals

Exotic Exam Rooms Cleaning/Disinfection Procedures after Infectious Suspect Patient Exposure

4) Exam room floors
    i) Signet neutral disinfectant per manufacturer's IFUs
    ii) Allow to set for at least 10 minutes
    iii) Repeat mopping
    iv) Allow to air dry
    v) If suspect organism is known to be transmitted through the air, close room from further patients of the same species until the following day.
5) Exam room surfaces and roll cage
    i) Spray with Signet neutral disinfectant
    ii) Allow to set for at least 10 minutes
    iii) Repeat spray
    iv) Allow to air dry
6) Bedding, towels, lab jackets
    i) Place cloth items in separate biohazard bags by type
        (1) Bedding
        (2) Towels
        (3) Lab Jackets
    ii) Label bag with name of suspect organism, bag must be sealed with zip or autoclavable tape prior to taking to Central Prep
    iii) Send to Central Prep for cleaning

Exotic Ward and Wildlife Ward Cleaning Procedures

1) Dry mop and wet mop floor of ward
2) Wipe down exam tables with Signet or Intervention disinfectant spray
3) Wipe down countertops with Signet or Intervention spray
4) Clean cages by removing all bedding, dishes, and food and then spray with Signet or Intervention disinfectant, let sit for 10 minutes and then wipe clean

Avian and Tiger Ward

1) Spray Intervention disinfectant at the terminal rate on floor, walls, and cage bars, let sit for 10 minutes, then rinse with water and let dry.
2) Spray exam table with Intervention and wipe clean
3) When the Avian ward is occupied, maintain a foot bath outside the entrance

4) If suspect an infectious organism in the ward:
    i. Place cloth items in separate biohazard bags by type
        1. Bedding
        2. Towels
        3. Lab Jackets
    ii. Place all trash in biohazard bag, seal and label appropriately, dispose of properly
    iii. Label bag with name of suspect organism, bag must be sealed with zip or autoclavable tape prior to taking to Central Prep
    iv. Send to Central Prep for cleaning

Foot and Mouth Disease Prevention for Visitors Traveling To the United States from Infected Regions of the World

I. Foot and Mouth disease (FMD) is not a human health risk, but humans can carry the virus on their clothing, shoes, body (particularly the throat and nasal passages) and personal items. The disease is extremely contagious and spreads easily among cloven-hoofed animals such as cattle, sheep, pigs, goats and deer. Introduction of FMD into this country would be disastrous to the American livestock industry and wildlife community.

II. Travelers to the United States from FMD-infected (endemic) countries must take steps to help prevent the accidental introduction of this disease into this country. In this protocol, travelers are defined as "VHC Faculty, House Officers, Students, Staff and Visitors". Any traveler who enters the United States from a known FMD-infected country must not be in the VHC (including pastures, parking lots or vehicles) for five (5) days after entering the United States. If you are planning a trip to a known FMD-infected country, please contact the VHC Hospital Administrator's Office prior to departure to discuss this protocol and your return plans. A list of FMD-free countries may be found at https://www.woah.org/en/disease/foot-and-mouth-disease/ (Accessed 10/27/2023). If a country is not on this list, it is considered FMD infected.

III. The following preventive measures should be taken by travelers to the United States from FMD- infected countries (taken from The Red Book 11-3-2020):

A. Avoid farms, sale barns, stockyards, animal laboratories, packing houses, zoos, fairs or other animal facilities for *5* days prior to travel to the United States.

B. Before travel to the United States, travelers must launder or dry clean all clothing and outerwear. All dirt and soil should be removed from shoes by thorough cleaning prior to wiping with cloth dampened with a bleach solution.
- 5 teaspoons of household bleach in 1 gallon of water).
- Luggage and personal items (including watches, cameras, laptops, CD players and cell phones) should be wiped with a cloth dampened with bleach solution, if soiled.

C. Travelers must avoid contact with livestock or wildlife for 5 days after arrival in the United States. Extra precautionary measures should be taken by people traveling from farms in infected locales to visit or work on farms in the United States. Clean clothing should be worn after the visitor showers and shampoos thoroughly. Visitor's traveling clothes should be laundered or dry cleaned immediately. Off-site activities should be scheduled for the visitor's first 5 days in-country and contact with livestock or wildlife should be strictly avoided.

D. Travelers must agree to be physically present in the United State five days prior to their arrival at the Kansas State University Veterinary Health Center

Primate (Non-Human) Occupational Safety

Personnel Responsibilities: All persons having direct or indirect contact with nonhuman primates (NHPs) and/or their bodily fluids or wastes should be informed of the risks. Those potentially at risk and in need of education include staff, volunteers, and students in animal care, veterinary, education, and research departments.

Policy: Due to human health and safety risks associated with providing veterinary care for non-human primates, particularly the Old-world species, it is the policy of the VHC Zoological Medicine Service to highly discourage seeing non-human primate patients. Under no circumstances will we see Macaques (Any Macaca genus) or any primate imported from outside of the United States. If a non-human primate patient is scheduled for evaluation of medical condition or is presented for emergency care, the following guidelines will be strictly adhered to:

A. Students are prohibited from working with non-human primate patients without direct clinician supervision AND appropriate PPE (Personal Protective Equipment) must always be worn.

B. A member of the Zoological Medicine Service will call the primate owner the morning of their scheduled appointment. The owner will be informed that they will need to bring the animal in a secure carrier and that there will be a primate handling fee associated with the visit. An exam room will need to reserved first thing in the morning on the day of the scheduled exam by placing a sign on the door with its intended use and times. This room will be reserved for the rest of the day, or until properly disinfected.

C. All clinicians, staff, and students in proximity to the patient are required to wear the following personal protective equipment. The personal protective equipment is to protect YOU from the primate and to protect the primate from you. Moving through the hospital in your PPE with the primate is required because the risk of disease transmission to another patient is low but risk of disease to a person close to the primate is high.

1. Protective wear (disposable clothing) – this includes a disposable gown. If the gown breaks, it needs to be replaced immediately.
2. KN95 mask
3. Safety goggles or a face shield and goggles.
4. Latex (or other) gloves must be worn when in contact with the patient, patient laundry, or items of clothing. If there is a high concern for infectious disease (example Old World primate), DOUBLE gloving should be done.

D. When the non-human primate patient is being transported to the VHC and is in the parking lot (privately owned, zoo primate other than Sunset Zoo), the client and the primate should remain outside the VHC contained in the owner's car or a carrier until the Zoological Medicine Service clinician is present and prepared to proceed with the case. Someone from the service will then retrieve the owner and animal from their vehicle and guide them directly into the reserved exam room.

A desk staff member can check the animal into Instinct over the phone and an exotics service member can have the client sign the consent form in the exam room.

E. Personnel involvement will be limited to the minimum number of people needed to care for the case to reduce human exposure to the non-human primate.

F. At the end of the appointment the owner should be directed back to their vehicle. Payment for services can be made over the phone.

G. After the exam room is cleared the desk staff will be informed so that they can have the room terminated. The Zoological medicine service will clean all ward rooms and materials exposed to the primate patient. All appropriate PPE must be worn, and all surfaces need to be cleaned with the terminal rate of disinfectant. The disinfectant should be left on all surfaces for 10 minutes of contact time and then wiped dry.

H. All materials, supplies and instruments used in treating primates must be placed in biohazard bags and taken to Central Prep. Items must be sorted into appropriate biohazard bags (biohazardous materials versus biomedical waste). ALL contaminated biohazardous materials must be cleaned prior to placing in a biohazard bag, secured with an appropriate twist tie, labeled with "Non-Human Primate". Please dispose of all biohazard trash into the large red bin marked "VHC" in the metal corral outside behind the diagnostic lab. Do NOT mix bedding, cloth, instruments, tubing, trash, etc.
<u>Do Not</u> fill biohazard bags over 2/3rd full.

1. Equipment must be cleaned prior to returning it to Central Preparation. Dirt, blood, hair, or other debris must be removed.
2. Instruments must be free of tissue, blood, and debris. If not clean, they will be returned to the Exotics service for cleaning.
3. Items must be separated and placed in separate biohazard bags
    a. Metals
    b. Plastics
    c. Linens
4. Steam Sterilization:
    a. Stainless steel instruments
    b. Surgical linens, (pan covers, blue towels, pack wraps)
    c. Linens must be blood, tissue, and urine free.
    d. Do not place wet linens in the biohazard bags. Hang to dry in a designated area before bagging.
5. Low temperature sterilization:

a. Clippers and clipper blades
b. ET tubes

6. Non-rebreathing tubing, breathing bags and face masks will be soaked in a chlorhexidine solution (1 ounce (2 tablespoons) of Chlorhexidine Solution per gallon of clean water) or dilute bleach solution (1:10 ratio).
   Contact Time for chlorhexidine and for dilute bleach - Let stand in solution for 2 minutes, rinse thoroughly, then wipe and hang to air dry in designated area.
7. Patient towels, bulb syringes and suction tubes should be thrown away in biohazard trash.
8. Heavily soiled or known contagious materials must be thrown away in biohazard trash.

Biomedical Samples

NHP (nonhuman primates) biological samples (i.e., urine, blood, semen, feces) should be placed in containers within clearly labeled (i.e., species and identification) leak-proof secondary containers (e.g., sealed plastic container or bag) for transport to the clinical pathology laboratory. This is necessary to prevent contamination of surfaces during transport and handling. Persons preparing these samples should wear gloves to prevent contaminating the outside of the container or should wipe the outside of the container with appropriate disinfectant. Specimens being sent to outside laboratories should have additional labeling to identify them as "nonhuman primate" samples.

Biomedical Waste

A. Sharp disposable materials (e.g., scalpel blades, needles) must be disposed of in a red plastic sharps container. When all the sharps have been collected, close the lid, and take the container to Mosier B-116 (Ward Services room) and place it on the counter. This container is to be used once and then disposed of.
   1. Do not attempt to recap any needles, rather place them directly in the sharps container. Recapping needles presents a significant human health risk due to potential for needle stick injury and transmission of infectious disease.
   2. Extra caution should be taken when dealing with any sharps in surgery for the same reason.

B. Solid Biohazardous Waste

   1. Personal Protection Equipment (PPE) such as protective wear (disposable gowns/clothing), latex (or other) gloves, and face mask (or safety goggles) must be worn by staff when in contact with the patient. Patient laundry or clothing items in direct contact with the nonhuman primate must be placed in a biohazard bag for disposal.

   2. Trash (such as paper towels, used gauzes, cloth like materials, plastics) are to be placed in a separate biohazard bag from the surgical equipment and sharps for

disposal.

3. Linens and bedding will be placed in a separate biohazard bag from trash and PPE.

4. Biomedical waste will be disposed of in Mosier J-129 in an available rigid, leak-proof container. Do not place bags on the floor.

Biohazardous Bags

A. All items coming into Central Prep contained within biohazard bags must be bagged and closed at the point of use. Do not transport open bags through the hospital. Bags must not be filled more than 2/3 full.

B. Bags must be zip-tied with biohazard ties at the point of use. Bags that are folded over and taped will not be accepted by Central Preparation personnel.

C. Individuals who deliver biohazard bags containing materials from non-human primary patients to Central Prep **must** verbally communicate the contaminant delivery to the Central Prep staff.

Standard Operating Procedures:

A. Personal Hygiene-Any person that will be entering or working in an area of a NHP should adhere to good general hygiene practices
   a. Eating, drinking, applying cosmetics, or handling contact lenses should NOT be permitted in an NHP area. Any food intended for human consumption should not be kept or opened near an NHP.
   b. Handwashing should be performed before handling animal food items, after removing gloves, before leaving a primate area, and before eating, drinking, applying cosmetics, handling contact lenses, or smoking after working in a primate area.
   c. Masking should be done prior to handling food to be offered to the animal.
   d. Disposable gloves should be changed often and when going from one activity to another (i.e., from cleaning to feeding), and when they become soiled or develop tears or holes.
   e. Work clothing should be changed when visibly soiled or contaminated.
   f. People should shower when contamination of skin or hair has occurred.
   g. Nets, protective leather gloves, and other equipment should be cleaned and disinfected following each use. Since complete disinfection may be difficult, leather gloves should be dedicated for nonhuman primate use.

B. If scratched, bitten, needle skin prick, or feces and/or urine is exposed to the nose, mouth, or eyes:

   a. <u>For skin exposure</u>: Immediately begin by flushing and/or scrubbing the affected area with chlorhexidine or betadine scrub and running tap water. Continue this process for **<u>15 minutes</u>**. Do <u>not</u> use chlorhexidine or betadine scrub in the eyes!

For a briskly bleeding or other serious wound, go directly to Ascension Via Christi Hospital.

b. For eye or mucous membrane exposure: Immediately irrigate with sterile saline or water for **15 minutes**. Use an eye wash station when available.

c. Apply a temporary bandage from the First Aid Kit.

d. Immediately proceed to Ascension Via Christi Hospital for medical evaluation and wound cultures if indicated.

e. Report the accident to your supervisor immediately. Do not let this step delay the seeking of medical care. If you cannot communicate with your direct supervisor, proceed to an emergency care facility as the first step.
   i. Report the ID number of the animal to which you were exposed, the location where the exposure took place, and the type of exposure.
   ii. If you are unable to contact your supervisor before going to the hospital, report the accident to your supervisor as soon as possible after the medical evaluation.

Diseases of Concern:

A. Tuberculosis: Tuberculosis is a serious debilitating disease of primates that is caused by Mycobacterium tuberculosis. Old World primates are most susceptible, but tuberculosis also occurs in New World monkeys and great apes. Inhalation and ingestion are the most common routes of transmission. Clinical signs in primates include debilitation, coughing, chronic diarrhea and draining skin lesions.

B. Cercopithecine Herpes Virus I (B Virus): B virus can cause fatal encephalitis in humans. Macaque monkeys and other Old-World primates are the natural hosts for this virus, and they usually have no clinical symptoms associated with the infection. When they are shedding the virus, they may have a mucocutaneous ulcer (cold sore) on the lips. The virus is transmitted via bites and scratches, or by mucous membrane contact with infected secretions (including blood, saliva, or urine).

C. Simian Immunodeficiency Virus (SIV): This virus, present in some species of Old-World monkeys, causes a clinical disease in monkeys that is like human AIDS. There is evidence of seroconversion to SIV in humans and the long-term effects are unknown. Avoidance of secretions is strongly recommended.

Sharps Container Protocol

Expectations:

Removing full sharps containers to new storage area (G-112D/SW 105) and the restocking of new sharps containers stored in (H-112) on a daily basis. The removal and restocking will be aided by a cart which is stored in (G112D/SW 105) and trash bags may be employed to keep full and clean containers separated. When the cart becomes soiled it can be sanitized using the water outlets on I-70 the area between the Small and Large Animal areas with the proper cleaning agents. On the daily route the sites in the Small Animal Hospital will be serviced first according to the various needs of each separate area followed by the sites in the Large Animal Hospital. To prevent cross contamination the person in charge of these duties will clock out at the end of the day in the Large Animal side of VHC and not reenter the Small Animal Side that day. This means that ample time should be allotted for these duties in the afternoon at least in the Large Animal aspect. Any pages received will be immediately responded to and if circumstances call for reentry into the Small Animal Hospital Shoe Covers and Gloves will be worn to prevent cross contamination. Instructions for servicing the various areas of the VHC will be broken down by the requests submitted by staff and clinicians.

Sharp Container Access:

There are several keys that allow access to the full sharps storage room (G-112D/SW 105), one is retained by individual performing these tasks, one is retained by Oncology, and two will be placed in the Cubex units. Animal Tech Supervisors and Small Animal Technicians have sub master keys that allow access. Keys that open the empty sharps room (H-112) are retained by Dispensary.

Disposal:

Public Safety has an established schedule for picking up sharps containers, chemo waste, and certain hazardous materials. If you notice that (G-112D/SW 105) is filling up please contact the Animal Tech Supervisor for Small Animal Fill out a Sharps and Medical Waste Request Form for Public Safety to schedule a pick-up which is available on the KSU Environmental Safety and Health website.

Small Animal Hospital:

A. Dispensary (A-119)

a. Dispensary will need a daily check with staff to see if they have full sharps containers and what they need for both empty sharps containers and empty chemotherapy containers for restocking.
b. Any chemo waste generated by the Dispensary will be picked up on a daily basis.

c. They also have an available key to open (H-112) where the empty clean containers are stored.

B. Hill's Pet Health and Nutrition Center (A-103)

a. Pet Health will need to be serviced in the following areas:
b. Treatment Area 4 sharps containers. One located on each end of treatment tables. Four total kick buckets located beneath each treatment table.
c. There are also sharps containers in the following rooms (A-103A, A-103B, A-103E Surgery, A-103G, A-103H, A-103J)

C. Urgent Care (B-103, B-122, B-123, B-124, B-126, B-133)

a. There is a single container on top of the cabinetry in each of these rooms that need to be checked daily for replacement.

D. Oncology (B-106, B-107)

a. Oncology will need a daily check on their sharps container and an empty when required.
b. They will take out and replace their own chemotherapy containers and the biohazard trash will be removed by Small Animal Technician when they clean this ward.
c. Oncology also retains a key to the full sharps room (G-112D).

E. Cardiology (B-101, B-102)
F. Endoscopy (B-112)
G. Dental (B-113)
H. Bandage Room (B-117)
I. Wards and Ancillary Rooms (B-146, B-147, B-148, E-114, E-116, E-117)
J. ICU (B-149)
K. Small Animal Surgery and Ancillary Rooms (C-111, C-112, C-113, C-114, C-116, C-117, C-122, C-123, C-124, C-126, C-127)
L. Ophthalmology (E-101, E-102, E-103, E-108)
M. Dermatology (E-104)
N. Self Help Lab (E-113)
O. Junior Surgery Lab (O-258, O-259, O-261, O-262, O-263)

a. All of the above listed services and areas from Cardiology to Junior Surgery Lab will drop off their full sharps containers in Ward Services (B-116) and replenish their own from the supply kept in this room.
b. It is extremely important that the full containers are removed from this room daily and an adequate stock of empty containers be kept on hand.

P. Central Prep (C-103, C-104, C-107)

a. On a daily basis ask Central Prep personnel if they have full sharps containers and replenish their stock with empty containers.
b. This will keep you from cross contaminating their areas by traveling through them.

Q. Radiology (F-113, F-122, F-126, F-128)

a. On a daily basis check the containers in each of these rooms and replenish as needed.

Large Animal Hospital:

A. Equine (H-116)

a. This room will serve as a centralized pickup for the Equine Section.
b. In the far right bottom cabinet, there is a stock of 5-6 small empty containers which need to be maintained.
c. Full sharps containers are located under the countertop on the east wall.
d. This area must be serviced daily.

B. Livestock Services (J-113)

a. This room will serve as a centralized pickup for the Livestock Services section.
b. There are 5-6 small containers and one large empty container in a cabinet behind the door of this room as stock which must be maintained.
c. Full sharps containers are set on the floor behind the door.
d. This area must be serviced daily.

C. Isolation (J-191)

a. This area will serve as a centralized pickup for the outer Isolation Units. Full containers will be located beside the (J-191) door in Tier 3. No stocking needed, but full containers should be removed daily.

D. Large Animal Surgery (G-109)

a. A stock of four large containers will be maintained in this room.
b. The Veterinary Nurse, Veterinary Assistant will take full containers to the drop site in (J-113), but the stock of four large empty containers is to be monitored daily.

Rabies Vaccination Post-Exposure Protocol

- If the animal doing the biting (biter) is an owned animal and is known to be current on its rabies vaccine and is otherwise healthy, then the bitten animal does not need a rabies booster.

- If the animal is bitten by an owned, stray or wild animal that is submitted for rabies testing, the bitten animal can be boostered within 96 hours or can wait until the test results are known. If negative, the bitten animal does not need a booster vaccine. If positive, it should be boostered immediately!

- Please note that an animal is not considered current on it rabies vaccine until **28 days** after receiving its first rabies vaccine.

- Animals are considered to be overdue the day after their current vaccine duration expires.

A. 2016 Rabies Compendium Guidelines

Post exposure management for any animal exposed to a confirmed or suspected rabid animal

(1) **Dogs, cats, and ferrets that are current on rabies vaccination should:**
   a. Immediately receive veterinary medical care for assessment and wound cleansing
   b. Booster rabies vaccination within 96 hours
   c. The animal should be kept under the owner's control and observed for **45 days**

(2) **Dogs, cats, and ferrets that have never been vaccinated should be:**
   a. Euthanized immediately **OR**
   b. A rabies vaccine should be administered immediately and the animal placed into strict quarantine (**4** months for dogs/cats and **6** months for ferrets).
      i. It is recommended that the period from exposure to vaccination **not exceed 96 hours**
      ii. If vaccination is delayed, public health officials may consider increasing the quarantine period for dog and cats from 4 months to 6 months, taking into consideration factors such as the severity of exposure, the length of delay in vaccination, current health status, and local rabies epidemiology.
      iii. Strict quarantine in this context refers to confinement in an enclosure that precludes direct contact with people and other animals. This is typically a double enclosure.

iv. The KDHE also recommends the use of a post-exposure vaccine series for unvaccinated cats and dogs exposed or potentially exposed to rabies. This consists of a series of 3 rabies vaccines being given on day 0, 7 and one between days 21-28.

(3) **Dogs and cats that are <u>overdue</u> for a booster vaccination and have <u>appropriate documentation</u> of having received a USDA-licensed rabies vaccine <u>at least once</u> previously:**

a. Treatment is the same as #1 above
b. If booster vaccination is delayed, public health officials may consider increasing the observation period for the animal, taking into consideration factors such as the severity of exposure, the length of delay in booster vaccination, current health status, and local rabies epidemiology.

(4) **Dogs and cats that are <u>overdue</u> for a booster vaccination and <u>without appropriate documentation</u> of having received a USDA-licensed rabies vaccine <u>at least once</u> prior to the incident should:**

a. Immediately receive veterinary medical care for assessment, wound cleansing, and consultation with local public health authorities. There are then two possible options:

b. **Option 1:** The animal can be treated as an unvaccinated animal and <u>immediately</u> given a booster vaccination (within 96 hours), and placed in strict quarantine for 4-6 months.
   i. See #2 above

c. **Option 2:** <u>Prior to booster vaccination</u>, the attending veterinarian may request guidance from the local public health authorities in the possible use of prospective serologic monitoring.
   a. Paired titers can be performed (if allowed) to check for an anamestic response. It is important that the rabies booster be given <u>after</u> the first serum blood draw. Blood should be spun down and serum saved to be shipped out later.
   b. Blood for the second titer sample should be drawn 5-7 days later. Both serum samples should then be shipped out together so they are ran on the same testing batch.
   c. If there is an appropriate anamestic response (2 fold or greater), the animal can be observed under the control of the owner for 45 days.
   d. If there is not an anamestic response, there will be a strict quarantine period of 4 to 6 months, depending upon the timing of the booster vaccine.

(5) **Ferrets that are overdue for a booster vaccination**

a. Should be evaluated on a case-by-case basis, taking into consideration the below listed factors to determine the need for euthanasia or immediate booster vaccination followed by observation or strict quarantine.
   i. Severity of exposure
   ii. Time elapsed since last vaccination
   iii. Number of previous vaccinations
   iv. Current health status
   v. Local rabies epidemiology

B. How to enter charge/document the rabies vaccine and create a rabies vaccination certificate

1. Choose the appropriate rabies vaccine and get a rabies tag (both will be in Cubex)
   a. Choose plain Purevax (**NOT** the 3 yr Purevax) rabies for **cats**
      i. Give SQ low on the right hind leg
   b. Choose Imrab 3 for **dogs**
      i. Give SQ in the right shoulder
   c. Only veterinarians have authorization to get rabies vaccines from Cubex!

2. Keep sticker from vial and bring to Pet Health so they can assist on getting information scanned into Instinct via the correct form. Make sure to have the rabies tag number available as it will be needed as well.

3. You will need to **enter the charge for the rabies vaccine into Vetstar** under the service the patient was registered as it will not automatically update the charge when the vaccine is obtained from Cubex.
   a. V1090 for **cats**
   b. V1126 for **dogs**

4. When you go to exit the charge, the system will populate the rabies certificate that will need information filled in. You will need to enter in the following information in this order:
   a. The first line will automatically state the name of the chosen vaccine
   b. Enter rabies tag number
   c. It will automatically have the manufacturer (BI) listed on the next line, so enter through it.
   d. Enter the serial number of the vaccine (this is on the sticker)
   e. Expiration years (this is the duration the vaccine will be protective)

        i. Enter the number “1” for this section as all the vaccines will be considered good for 1 year for simplicity.
    f. Vaccine expiration (this also the duration of the vaccine protection)
        i. This will automatically populate for a year from the vaccine date. Do not change.
    g. Lot number
        i. It will not accept a number, so enter on through it.
    h. Drug expiration date (this is the shelf life of the vaccine itself)
        i. Enter as mmddyy. You do not need to enter the back slashes, but it will also take it if you do. This expiration date is on the vaccine sticker on the bottle.
    i. Hit enter and it should bring up the option to print the certificate. If you go through it too quickly and miss the printing option, you can reprint a certificate by entering these codes in the command line:
        i. rbc1 (dogs)
        ii. rbrc (cats)
    j. **Sign the certificate**

5. If an **owner refuses** to have a booster given for whatever reason, document this in the discharge instructions. Also include a clause stating the animal should have a rabies booster within 96 hours of the incident.

Appendix A

Calf Isolation Procedures

1. Do not house patients from different owners/dairies side by side unless absolutely necessary.

2. Use all appropriate footbaths.

3. Disposable barrier gowns and gloves are required to enter a stall with a patient at the discretion of the senior clinician.

4. Use separate thermometers and stethoscopes for each patient.

5. Keep contaminated items with the patient from which they come.

6. Thermometer, stethoscope, barrier gowns, etc. should be kept next to that patient's stall to avoid cross-contamination.

7. Please label milk bottles with client name and case number to keep them separate. Store milk bottles in the refrigerator with an examination glove over the nipple; do not leave milk at room temperature for more than 2 hours.

8. Items taken into Calf Isolation from the main Large Animal Hospital, Central Supply, etc. should remain there until the calf goes home; all equipment should be properly cleaned and disinfected.

9. Do not reach for anything clean (syringe boxes, cupboards, etc.) with dirty hands or gloves. Try to have everything ready prior to a procedure; or remove dirty gloves, get items needed and put on a new pair of gloves.

10. Used milk bottles must be washed with soap, rinsed, soaked in dilute bleach (2oz. per gallon of water) for at least 20 minutes, and then rinsed well.

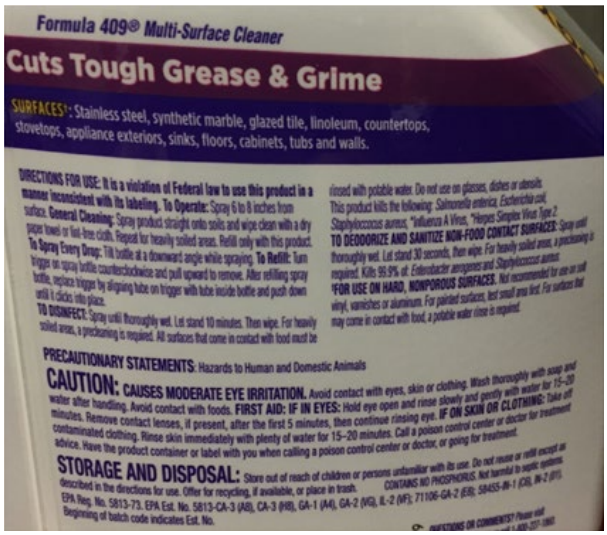
11. Wash hands before, after, and between animals to avoid spreading contamination!

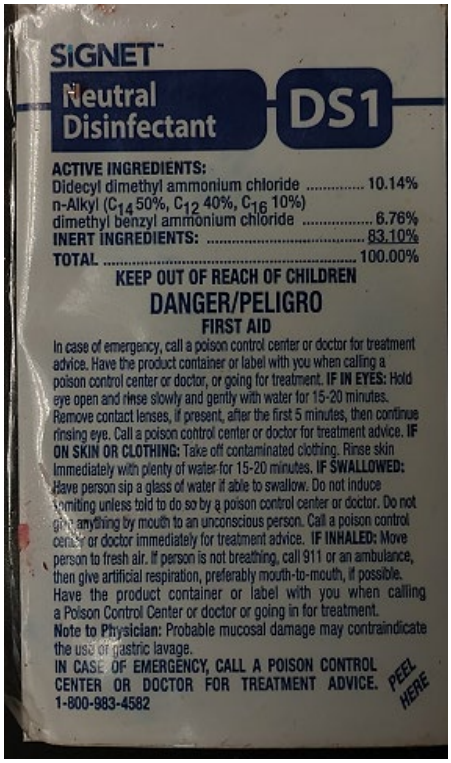
Appendix B

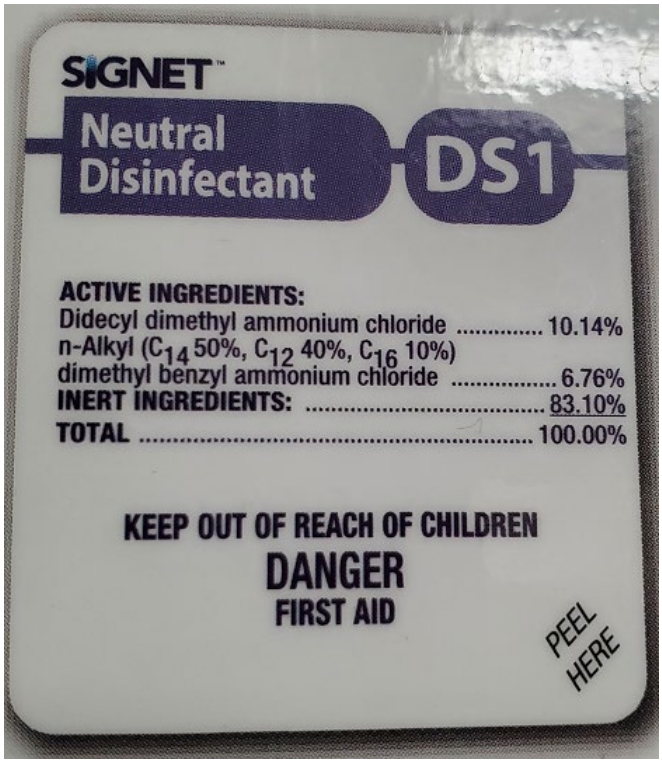
EPA Registered Disinfectants used in the VHC

VHC Disinfectants	EPA Registration Number
Rescue Spray	46781-6
Rescue Wipes XL	46781-8
Formula 409 All Purpose Cleaner	5813-73
Signet Neutral Disinfectant DS1(Virex II	10326-141-70627
Q.T.3 Disinfectant	6836-349
CVM Facilities Floor Disinfectant	EPA Registration Number
Virex II 256 One-Step Disinfectant Cleaner and Deodorant: Quat Based Disinfectant	70627-24

409
MULTI-SURFACE
CLEANER
KEEP OUT OF REACH OF CHILDREN
CAUTION:
32 FL OZ
(1QT) 946mL


Formula 409® Multi-Surface Cleaner
Cuts Tough Grease & Grime
SURFACES¹: Stainless steel, synthetic marble, glazed tile, linoleum, countertops, stovetops, appliance exteriors, sinks, floors, cabinets, tubs and walls.
PRECAUTIONARY STATEMENTS: Hazards to Human and Domestic Animals
CAUTION: CAUSES MODERATE EYE IRRITATION.
STORAGE AND DISPOSAL:


SIGNET
Neutral Disinfectant
DS1
ACTIVE INGREDIENTS:
Didecyl dimethyl ammonium chloride 10.14%
n-Alkyl (C_{14} 50%, C_{12} 40%, C_{16} 10%)
dimethyl benzyl ammonium chloride 6.76%
INERT INGREDIENTS: 83.10%
TOTAL 100.00%
KEEP OUT OF REACH OF CHILDREN
DANGER/PELIGRO
FIRST AID
In case of emergency, call a poison control center or doctor for treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. IF SWALLOWED: Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Call a poison control center or doctor immediately for treatment advice. IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Have the product container or label with you when calling a Poison Control Center or doctor or going in for treatment.
Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.
IN CASE OF EMERGENCY, CALL A POISON CONTROL CENTER OR DOCTOR FOR TREATMENT ADVICE.
1-800-983-4582
PEEL HERE


SIGNET
Neutral Disinfectant
DS1
ACTIVE INGREDIENTS:
Didecyl dimethyl ammonium chloride 10.14%
n-Alkyl (C_{14} 50%, C_{12} 40%, C_{16} 10%)
dimethyl benzyl ammonium chloride 6.76%
INERT INGREDIENTS: 83.10%
TOTAL 100.00%
KEEP OUT OF REACH OF CHILDREN
DANGER
FIRST AID
PEEL HERE

JohnsonDiversey™

virex® II 256

5

One-Step Disinfectant Cleaner And Deodorant

Bactericidal • *Virucidal • Fungicidal • Mildewcidal • Deodorizer • Mildewstatic
Meets OSHA Bloodborne Pathogen Standard for HBV & HIV

ACTIVE INGREDIENTS:
Didecyl dimethyl ammonium chloride.....8.704%
n-Alkyl (50% C_{14}, 40% C_{12}, 10% C_{16})
dimethyl benzyl ammonium chloride 8.190%
OTHER INGREDIENTS: 83.106%
TOTAL: 100.000%

KEEP OUT OF REACH OF CHILDREN
DANGER
See additional precautionary statements on side.

FIRST AID
IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes.
IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.

IN CASE OF EMERGENCY, CALL A POISON CONTROL CENTER OR DOCTOR FOR TREATMENT ADVICE.
1-800-851-7145
Have the product container or label with you when calling a Poison Control Center or doctor or going in for treatment.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

5297721 (09/309)

Net Contents:
2.5 L / 2.64 U.S. Qt. **04329** JohnsonDiversey

Virex® II 256

This product is a one-step disinfectant cleaner and deodorant designed for general cleaning, disinfecting and deodorizing of hard, non-porous environmental surfaces. It cleans quickly by removing dirt, grime, mold, mildew, body oils and other common soils found in hospitals, nursing homes, schools and colleges, medical offices, hotels, motels, public areas, restrooms and foodservice establishments.

It is designed for use on the following hard, non-porous environmental surfaces: vinyl, painted surfaces, plastic, glazed ceramic, glazed porcelain, chrome, aluminum, laminated surfaces and baked enamel surfaces associated with floors, walls, ceilings, tables, chairs, countertops, telephones, fixtures, glazed tile, toilets, urinals, sinks, shower rooms and locker rooms areas – any hard, non-porous washable surface where disinfection is required. This product's non-dulling formula eliminates the time and labor normally required for rinsing. A potable water rinse is required for food contact surfaces. Do not use on glasses, dishes and utensils.

When used as directed at a 1:256 dilution (1/2 oz. per gallon of water), this product contains 660 ppm of active quaternary germicide making it highly effective against a wide variety of pathogenic microorganisms.

Using approved AOAC test methods under Good Laboratory Practices, in the presence of 400 ppm hard water, 10% serum load and 10 minute contact time this product kills the following on hard non-porous inanimate surfaces: *Pseudomonas aeruginosa, Staphylococcus aureus, Salmonella enterica, Acinetobacter baumannii, Acinetobacter calcoaceticus, Enterococcus faecalis, Escherichia coli, Escherichia coli* 0157:H7, *Klebsiella pneumoniae, Listeria monocytogenes, Proteus mirabilis, Proteus vulgaris, Salmonella enteritidis, Salmonella typhi, Serratia marcescens, Shigella dysenteriae, Staphylococcus epidermidis, Streptococcus agalactiae, Streptococcus pyogenes*

Antibiotic-Resistant Bacteria: *Enterococcus faecalis*, resistant to Vancoymycin (VRE); *Staphylococcus aureus*, Intermediate Vancomycin Resistance (VISA); *Staphylococcus aureus*, resistant to Methicillin (MRSA) and Gentamicin (GRSA); *Staphylococcus epidermidis*, resistant to Methicillin (MRSE); *Streptococcus pneumoniae*, resistant to Penicillin (PRSP)

***Viruses:** *Herpes simplex virus Type 1, *Herpes simplex virus Type 2, *Human Coronavirus, *Influenza virus Type A_2 (Hong Kong), *Parainfluenza virus Type 3, *Respiratory syncytial virus, *Rotavirus, *Vaccinia virus

*Kills Pandemic 2009 H1N1 Influenza A virus

See reference sheet for additional directions for use and a complete list of organisms.

This product can be applied by mop, sponge, cloth, paper towel, coarse trigger sprayer, auto-scrubber or foam gun. Change cloth, sponges or towels frequently to avoid redeposition of soil. For disinfection, all surfaces must remain wet for 10 minutes.

5996608 (13/063)

Virex® II 256

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE
Do not reuse empty container. Keep from freezing.

PESTICIDE DISPOSAL
Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL
Nonrefillable container. Do not reuse or refill this container. Wrap empty container and put in trash.

FOR INSTITUTIONAL USE
EPA Reg. No. 70627-24
EPA Est. No. 0312-WI-3
MSDS # MS0800549

Manufactured for: ©2015 Diversey, Inc.,
PO Box 19747, Charlotte, NC 28219-0747

PRECAUTIONARY STATEMENTS HAZARD TO HUMANS AND DOMESTIC ANIMALS

DANGER: Corrosive. Causes irreversible eye damage and skin burns. Do not get in eyes, on skin or on clothing. Wear chemical splash-proof goggles or face shield, rubber gloves, and protective clothing. Harmful if swallowed, inhaled or absorbed through skin. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash before reuse.

Questions? Comments:
1-800-558-2332

0 46500 04329 1

HILLYARD
The Cleaning Resource

Q.T.® 3

HIL0084325

Cleaner – Fungicide – Mildewstat – Virucide* – Deodorizer for Hospitals, Institutional and Industrial Use

ACTIVE INGREDIENTS:
Octyl decyl dimethyl ammonium chloride.....8.67%
Dioctyl dimethyl ammonium chloride.....2.67%
Didecyl dimethyl ammonium chloride.....4.00%
Alkyl (C_{12} 50%, C_{14} 40%, C_{16} 10%) dimethyl benzyl ammonium chloride.....8.66%
OTHER INGREDIENTS:.....77.78%
Total:.....100.00%

KEEP OUT OF REACH OF CHILDREN
DANGER/PELIGRO
See side panels for Precautionary Statements.

FIRST AID
IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. **IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. **IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

Call a poison control center or doctor for treatment advice. Have the product container or label with you when calling poison control center or doctor or going for treatment.

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arsenal®

EPA Reg. No. 6836-349-1658
EPA Est. No. 1658-WI-1
Hillyard Industries - PO Box 909 - St. Joseph, MO - 64502-0909 - U.S.A.
Tel: 816.233.1321

NET CONTENTS: 0.66 U.S. GAL. OR 2.5 LITERS

Disinfectant Standard Dilution Chart

Disinfectant	Volume of Concentrated Disinfectant to Prepare 1 Gallon of Final Product	Label	Expires
Signet Neutral – Standard Strength	0.5 ounces	Rescue/Intervention 1:256	18 Months
Rescue/Intervention – Spray Bottle	2 ounces	Rescue/Intervention 1:64	1 Month
Bleach 1:10	13 ounces	Bleach Solution 1:10	24 Hours
Bleach 1:100	1.3 ounces	Bleach Solution 1:100	24 Hours

Wall Charts

Antimicrobial Spectrum of Disinfectants

The Antimicrobial Spectrum of Disinfectants

This table provides general information for selected disinfectant chemical classes. Antimicrobial activity may vary with formulation and concentration. *The use of trade names does not in any way signify endorsement of a particular product. They are provided as examples.*

Removal of organic material must always precede the use of any disinfectant.

most susceptible — **susceptibility of microorganisms to chemical disinfectants** — **most resistant**

	Acids hydrochloric acid, acetic acid, citric acid	**Alcohols** ethanol, isopropanol	**Aldehydes** formaldehyde, paraformaldehyde, gluteraldehyde	**Alkalis** sodium hydroxide, ammonium hydroxide, sodium carbonate	**Biguanides** chlorhexidine, Nolvasan®, ChlorHex®, Virosan®	**Halogens** sodium hypochlorite	**Halogens** iodine	**Peroxygens** accelerated hydrogen peroxide (Rescue®), potassium peroxymonosulfate (Virkon-S®), peroxyacetic acid, (Oxy-Sept® 333)	**Phenolic Compounds** (Lysol®, Osyl®, Amphyl®, TekTrol®, Pheno-Tek II®)	**Quaternary Ammonium Compounds** (Roccal®, Zepharin®, DiQuat®, Parvosol®, D-256®)
mycoplasmas	+	++	++	++	++	++	++	++	++	+
gram-positive bacteria	+	++	++	+	++	+	+	+	++	++
gram-negative bacteria	+	++	++	+	++	+	+	+	++	+
pseudomonads	+	++	++	+	±	+	+	+	++	−
rickettsiae	±	+	+	+	±	+	+	+	+	±
enveloped viruses	+	+	++	+	±	+	+	+	± [a]	±
chlamydiae	±	±	+	+	±	+	+	+	±	−
non-enveloped viruses	−	−	+	±	−	+	±	±	−	−
fungal spores	±	±	+	+	±	+	+	±	+	±
picornaviruses (i.e. FMD)	+	N	+	+	N	N	N	+	N	N
parvoviruses	N	N	+	N	N	+	N	±	N	−
acid-fast bacteria	−	+	+	+	−	+	+	±	±	−
bacterial spores	±	−	+	±	−	+	+	+ [b]	−	−
coccidia	−	−	−	+ [c]	−	−	−	−	+ [d]	−
prions	−	−	−	−	−	−	−	−	−	−

LEGEND
- ++ highly effective
- + effective
- ± limited activity
- − no activity
- N information not available

a–varies with composition
b–peracetic acid is sporicidal
c–ammonium hydroxide
d–some have activity against coccidia

the Center for Food Security & Public Health
Iowa State University®
www.cfsph.iastate.edu
© CFSPH 2010-2018

References: Fraise AP, Lambert PA et al. (eds). *Russell, Hugo & Ayliffe's Principles and Practice of Disinfection, Preservation and Sterilization*, 5th ed. 2013. Ames, IA: Wiley-Blackwell; McDonnell GE. *Antisepsis, Disinfection, and Sterilization: Types, Action, and Resistance*. 2007. ASM Press, Washington DC. Rutala WA, Weber DJ, Healthcare Infection Control Practices Advisory Committee (HICPAC). 2008. Guideline for disinfection and sterilization in healthcare facilities. Available at: *http://www.cdc.gov/hicpac/Disinfection_Sterilization/toc.html*;
Quinn PJ, Markey FC et al. (eds). *Veterinary Microbiology and Microbial Disease*. 2nd ed. 2011. West Sussex, UK: Wiley-Blackwell, pp 851-889.

ICU Disease Protocol Quick Reference

1. **Parvovirus**
   Location: Isolation (no exceptions)
   PPE: Consistent with Isolation Protocol
   Biohazard: Consistent with Isolation Protocol

2. **Distemper**
   Location: Confirmed Distemper cases will be placed in Isolation. If other patients are in isolation, then these cases should be isolated in ICU the best way possible.
   PPE: Wear gloves, wash hands OR consistent with isolation protocol if in isolation
   Biohazard: No, OR consistent with isolation protocol if in isolation

3. **Leptospirosis**
   Location: ICU bottom cages. Walk patients in area designated for leptospirosis patients. Clean any urine by spraying with disinfectant first and then wiping with paper towels. (Low risk zoonotic disease)
   PPE: Wear gloves, wash hands
   Biohazard: Yes

4. **Salmonella**
   Location: ICU bottom cages
   PPE: Wear gloves, wash hands
   Biohazard: Yes

5. **Tularemia**
   Location: Normal ICU protocol
   PPE: Wear gloves, wash hands
   Biohazard: No

6. **Histoplasmosis**
   Location: Normal ICU protocol
   PPE: Wear gloves, wash hands
   Biohazard: No

7. **Aspergillosis**
   Location: Normal ICU protocol
   PPE: Wear gloves, wash hands
   Biohazard: No

8. **Kennel Cough (dog)**
   Location: Try to avoid hospitalization of these patients. Otherwise, Isolation. If other patients are in isolation, the cat ward may be used. Try to avoid housing other patients in the cat ward.

PPE: Consistent with isolation protocol OR
Biohazard: Consistent with isolation protocol OR

9. Methicillin-resistant Staphylococcus pseudintermedius
Location: ICU
PPE: Wear gloves, wash hands
Biohazard: Yes

10. Multi-drug resistant E. Coli
Location: ICU
PPE: Wear gloves, wash hands
Biohazard: Yes

11. Streptococcus canis (necrotizing fasciitis)
Location: ICU (this is low-risk zoonosis)
PPE: Wear gloves, wash hands
Biohazard: Yes

12. Feline Upper Respiratory Disease Complex (Calicivirus)
Location: Isolation
PPE: Consistent with isolation protocol
Biohazard: Consistent with isolation protocol

13. Canine Influenza
Location: Isolation
PPE: Consistent with isolation protocol
Biohazard: Consistent with isolation protocol

Infected cats who cannot be admitted to isolation due to disease transmission to other cats already housed in isolation may be housed in the dog ward. Similarly, infected dogs who cannot be admitted to isolation due to disease transmission to other dogs already housed in isolation may be housed in the cat ward. Try to avoid housing other animals in these wards, if possible. ICU staff may care for these patients in the ward and do hourly treatments.

Select Zoonotic Diseases of Companion Animals

Select Zoonoses of Companion Animals

Human Impact

● = Body System Affected

Disease	Person-to-Person Vector-Transmitted	Transmission from Animals	Septicemia	Respiratory	Intestinal	Cutaneous	Ocular	Neurologic	Death	Incubation Period	Prominent Clinical Signs and Symptoms
BACTERIAL											
Brucellosis *Brucella species*	Person-to-Person	direct contact (infected animal tissue); inhalation	●					●		1-21 days	Flu-like signs; cyclic fever; arthritis; orchitis; epididymitis; hepatomegaly; Chronic: neurological; endocarditis
Campylobacteriosis *Campylobacter jejuni, C. fetus, C. coli*		ingestion (contaminated food, fecal-oral)			●					1-10 days	Diarrhea with or without blood; fever; nausea; vomiting; abdominal pain; headache; muscle pain
Cat Scratch Fever *Bartonella henselae*		direct contact (scratch or bite of cat)				●				3-20 days	Self-limiting; mild to severe skin rash at site of inoculation; lymphadenopathy; fever; malaise; fatigue; complications or atypical signs for 5-16% of cases
Chlamydiosis (mammals) *Chlamydophila abortus, C. felis*		ingestion (fecal-oral); inhalation; direct contact (birthing tissues)	●							unknown	Fever; headache; vomiting; abortion; pelvic inflammatory disease; septicemia; hepatitis; kidney dysfunction; disseminated intravascular coagulation
Ehrlichiosis *Ehrlichia, Neorickettsia, Anaplasma*	Vector-Transmitted	ticks		●	●	●	●	●		7-10 days	Headache; fever; chills; myalgia; vomiting; diarrhea; conjunctivitis; cough; confusion; children may develop a rash; severe in immunosuppressed patients
Leptospirosis *Leptospira species*		ingestion (contaminated water); inhalation; direct contact (urine)		●			●	●		7-12 days	Biphasic illness; fever; headache; chills; severe leg myalgia; conjunctival injection; jaundice; aseptic meningitis; cough; dyspnea; acute renal failure; abortion
Lyme Disease *Borrelia burgdorferi*	Vector-Transmitted	ticks				●				7-14 days	"Bulls- eye" rash with central clearing; malaise; fatigue; fever; headache; stiff neck; myalgia; arthralgia; lymphadenopathy; chronic recurring arthritis
Plague *Yersinia pestis*	Person-to-Person, Vector-Transmitted	direct contact (infected animal); fleas; inhalation	●	●						1-6 days	Flu-like signs; enlarged tender lymph nodes – "buboes"; rapid pneumonia; respiratory failure; toxemia; shock; death
Psittacosis *Chlamydophila psittaci*		inhalation (infected bird dander, droppings, secretions)		●		●		●		7-28 days	Flu-like signs; rash; extensive pneumonia; endocarditis; myocarditis; encephalitis
Q Fever *Coxiella burnetii*	Vector-Transmitted	direct contact (infected body fluids); inhalation; ticks		●			●	●		10-40 days	Flu-like signs; profuse sweating; severe headache; pneumonitis, no cough or chest pain; hepatitis; osteomyelitis; arteritis; endocarditis; neurologic signs; in-utero death; placentitis
Rocky Mountain Spotted Fever *Rickettsia rickettsii*	Vector-Transmitted	ticks			●	●	●	●		2-14 days	Fever; chills; malaise; headache; myalgia; vomiting; diarrhea; edema of the face or extremities; conjunctivitis; non-pruritic macular rash, may involve palms of hands or soles of feet; coma
Salmonellosis *Salmonella species*	Person-to-Person	ingestion (fecal-oral)	●		●			●		12 hours to 18 days	Acute enterocolitis; headache; abdominal pain; fever; diarrhea; nausea; septicemia; meningitis. May be severe in the very young, elderly, or immunosuppressed
Streptococcosis *Streptococcus canis, S. equi subsp. zooepidemicus, S. iniae, S. suis*		ingestion (contaminated food); inhalation; direct contact (infected animal)	●	●		●		●		hours to 3 days	Pharyngitis; pyoderma; abscesses; cellulitis; endocarditis; polyarthritis; pneumonia; septicemia; streptococcal toxic shock syndrome
Tularemia *Francisella tularensis*	Vector-Transmitted	arthropods (ticks, deer flies, mosquitoes); direct contact; inhalation; ingestion	●	●	●	●	●			1-14 days	Flu-like signs; exhaustion; ulcerative lesion; enlarged painful lymph nodes; painful purulent conjunctivitis; abdominal pain; diarrhea; vomiting; chest pain; respiratory distress; pneumonia; sepsis; death

Note: This chart provides an overview of some zoonoses of companion animals. Information presented here is not comprehensive, and should not be used to rule out a diagnosis or take the place of veterinary advice.

Additional disease information available at http://www.cfsph.iastate.edu/DiseaseInfo/. Table last reviewed January 2021

The Center for Food Security & Public Health
Iowa State University

Select Zoonoses of Companion Animals

Human Impact

Disease	Person-to-Person	Vector-Transmitted	Transmission from Animals	Septicemia	Respiratory	Intestinal	Cutaneous	Ocular	Neurologic	Death	Incubation Period	Prominent Clinical Signs and Symptoms
				● = Body System Affected								
VIRAL												
Influenza *Influenzavirus*	●		inhalation; direct contact (nasal secretions)		●	●					1-4 days	Fever; chills; anorexia; headache; myalgia; weakness; sneezing; rhinitis; sore throat; non-productive cough; pneumonia; nausea, vomiting, otitis media in children; death
Rabies *Lyssavirus*	●		direct contact; organ transplant						●		1-3 months	Headache; fever; malaise; abnormal behavior; paresis or paralysis; difficulty swallowing; delirium; convulsions; death
FUNGAL												
Cryptococcosis *Cryptococcus neoformans*			inhalation (infected bird droppings)		●				●		unknown	Most asymptomatic; fever; malaise; coughing; chest pain; dyspnea; headache; weight loss; meningo-encephalitis in immunosuppressed patients; death
Dermatophytosis *Microsporum species, Trichophyton species*			direct contact (infected animal)				●				7-14 days	"Ringworm", raised, inflamed, pruritic, circular lesion with central clearing; alopecia; thick, discolored nails; may disseminate in immunosuppressed patients
Sporotrichosis *Sporothrix schenckii*			Direct contact (cat, plant material); inhalation		●		●				3-12 weeks	Cutaneous most common; pustule at site of inoculation; progresses to slow-healing ulcerations; infection of lymphatic vessels; pulmonary and disseminated forms rare
PARASITIC												
Acariasis (Mange) *Numerous species of mites*			direct contact (infected animal)				●				1-4 days	Severe pruritus on arms, chest, abdomen, thighs; macules, papules, pustules; possible severe painful dermatitis with allergic reactions and chronic lesions
Baylisascariasis *Baylisascaris procyonis*			ingestion (fecal-oral)		●			●	●		7-30 days	Symptoms vary with number and location of larvae; fever; nausea; lethargy; hepatomegaly; pneumonitis; neurological signs; brain damage; blindness; death
Cysticercosis *Taenia species*	●		ingestion (fecal-oral)					●	●		10 days to years	Symptoms vary with number and location of larvae; chronic headaches, seizures most common; stroke; focal neurological signs; blurred vision; death
Echinococcosis (hydatid disease) *Echinococcus granulosus, E. multilocularis*			ingestion (fecal-oral)		●	●		●	●		months to years	Asymptomatic; signs associated with mass lesion; liver and lungs most common; abdominal pain; vomiting; jaundice; liver failure; cough; chest pain; blindness; seizures
Giardiasis *Giardia intestinalis*	●		ingestion (contaminated water, fecal-oral)			●					1-25 days	Sudden onset of diarrhea with foul-smelling stools; abdominal cramps; bloating; flatulence; nausea; fatigue; dehydration; chronic infections may occur
Larva Migrans (cutaneous) *Ancylostoma species*			direct contact (larvae)				●				7-14 days	Pruritus; winding threadlike cutaneous lesion with erythema and swelling
Larva Migrans (visceral, ocular) *Toxocara species*			ingestion (fecal-oral)		●	●		●	●		weeks to months	Severe in young children; fever; cough; hepatomegaly; pneumonia; ocular invasion; vomiting; weakness; anorexia; arthralgia; myalgia; lymphadenopathy
Leishmaniasis *Leishmania species*		●	sand flies				●				7 days to years	Cutaneous: papule; ulcer; may be chronic; Visceral: prolonged undulant fever; splenomegaly; hepatomegaly; fatal if untreated
Taeniasis *Taenia species*			ingestion (undercooked beef or pork)			●					10 days to years	Asymptomatic; symptoms more common in children; abdominal pain; diarrhea or constipation; nausea; weight loss
Toxoplasmosis *Toxoplasma gondii*			ingestion (fecal-oral, undercooked meat)						●		5-23 days	Flu-like signs; fetal death; congenital abnormalities, (hydrocephaly, microcephaly); severe in immunocompromised; encephalitis
Trichuriasis *Trichuris suis, T. trichiura, T. vulpis*			ingestion (fecal-oral)			●					variable	Asymptomatic; chronic diarrhea; abdominal pain; nausea; vomiting; flatulence; headache; weight loss; anemia; children may develop rectal prolapse

Note: This chart provides an overview of some zoonoses of companion animals. Information presented here is not comprehensive, and should not be used to rule out a diagnosis or take the place of veterinary advice.

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Select Zoonoses of Companion Animals

Animal Impact

● = Species with Zoonotic Potential

Disease	Dogs	Cats	Birds	Ferrets	Rabbits	Rodents	Other	Incubation Period	Prominent Clinical Signs
BACTERIA									
Brucellosis *Brucella canis*	●							variable	Abortions; stillborn or weak newborns; retained placentas; placentitis; orchitis; epididymitis; arthritis; lameness
Campylobacteriosis *Campylobacter jejuni, C. fetus, C. coli*	●	●	●	●		●	cattle, goats, mink, pigs non-human primates, sheep	3-25 days	Mucoid, watery, or blood-flecked diarrhea in many species; Hamsters: "wet tail"; may be fatal in newly hatched chicks; asymptomatic carriers common
Cat Scratch Fever *Bartonella henselae*		●					bobcats, cheetahs, cougars, panthers	2-16 days	No natural occurring disease reported; research studies have produced; fever; lethargy; anorexia; myalgia; lymphadenopathy; transient behavioral and neurological dysfunction
Chlamydiosis (mammals) *Chlamydophila abortus, C. felis*		●					cattle, deer, goats, llamas, sheep	3-10 days in cats; others vary	Cats: fever; conjunctivitis; ocular discharge; corneal ulcers; rhinitis
Ehrlichiosis *Ehrlichia, Neorickettsia, Anaplasma*	●					●	cattle, sheep, horses, llamas, foxes, coyotes, non-human primates, wild ruminants	1-20 days	Dogs: fever; lethargy; anorexia; petechiae; lameness; edema in hind legs; Dogs: may develop bleeding disorders
Leptospirosis *Leptospira species*	●					●	cattle, goats, horses, pigs, , sea lions, seals, sheep	4-12 days	Dogs: variable; hemorrhagic syndromes; kidney disease
Lyme Disease *Borrelia burgdorferi*	●					●	deer, horses, opossums, raccoons	2-5 months	Dogs: lameness; arthritis; Horses: lameness; arthritis; encephalitis; uveitis; dermatitis; edema of the limbs; abortion
Plague *Yersinia pestis*	●	●				●	prairie dogs, rock and ground squirrels	1-6 days	High fever; extremely swollen lymph nodes – "buboes"; severe pneumonia; septicemia
Psittacosis *Chlamydophila psittaci*			●				love birds, parakeets, parrots	3-10 days	Nasal and ocular discharges; conjunctivitis; yellow-green droppings; inactivity; ruffled feathers; inappetance; weight loss
Q Fever *Coxiella burnetii*	●	●			●	●	cattle, goats, sheep	1-3 weeks	Typically asymptomatic; Cats: subclinical; fever, anorexia, lethargy; abortion; Dogs: subclinical; splenomegaly
Rocky Mountain Spotted Fever *Rickettsia rickettsii*	●				●	●	opossums, rabbits, rodents	2-14 days	Fever; anorexia; depression; lymphadenopathy; dyspnea; diarrhea; vomiting; joint or muscle pain; edema of the face or extremities; petechiae of oral or ocular membranes; ataxia; paraparesis; seizures; renal failure; coma
Salmonellosis *Salmonella species*	●	●	●			●	reptiles (turtles, lizards, snakes); amphibians (frogs); hedgehogs; livestock species (poultry, horses, cattle)	variable	Clinical disease uncommon; may develop septicemia; anorexia; listlessness; osteomyelitis; osteoarthritis; subcutaneous abscesses; death
Streptococcosis *Streptococcus canis, S. equi subsp. zooepidemicus, S. iniae, S. suis*	●	●		●		●	bison, cattle, fish, foxes, goats, horses, non-human primates, pigs, sheep	varies with form	Mastitis; metritis; placentitis; abortion; septicemia; wound infection; polyarthritis; pleuritis; endocarditis; abscesses; pneumonia; meningitis; pyoderma; toxic shock; death; Guinea Pigs: cervical lymphadenitis
Tularemia *Francisella tularensis*	●	●			●	●	aquatic animals, horses, pigs, sheep	1-10 days	Sudden high fever with lethargy and anorexia; stiffness; reduced mobility; tachycardia; tachypnea; prostration and death; military white necrotic foci of liver, spleen or lymph node

Note: This chart provides an overview of some zoonoses of companion animals. Information presented here is not comprehensive, and should not be used to rule out a diagnosis or take the place of veterinary advice.

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The Center for Food Security & Public Health
Iowa State University

Select Zoonoses of Companion Animals

Animal Impact

Disease	Dogs	Cats	Birds	Ferrets	Rabbits	Rodents	Other	Incubation Period	Prominent Clinical Signs
● = Species with Zoonotic Potential									
VIRUSES									
Influenza *Influenzavirus*	●	●	●	●			pigs, horses	1-7 days	Birds: mild to severe; coughing; sneezing; decreased egg production; death; Ferrets: nasal/ocular discharge; sneezing, lethargy, fever, inappetance
Rabies *Lyssavirus*	●	●		●	●	●	any mammal	10 days to 6 months	Restlessness; anorexia or increased appetite; vomiting; fever; ataxia; incoordination; ascending paralysis; increased aggression; death
FUNGI									
Cryptococcosis *Cryptococcus neoformans*	●	●		●		●	cattle, sheep, goats, horses, llamas, foxes, mink, non-human primates	unknown	Cats: chronic rhinitis; sinusitis; lymphadenopathy; non-pruritic nodules on face; CNS disease; ocular lesions; osteomyelitis; Dogs: neurologic disease; Horses: obstructive growths in the nasal cavity
Dermatophytosis *Microsporum species, Trichophyton species*	●	●	●	●	●	●	cattle, goats, horses, pigs, sheep	2-4 weeks	Young animals most susceptible; adults may be asymptomatic; small circular areas of alopecia; flakey skin; most species non-pruritic
Sporotrichosis *Sporothrix schenckii*	●	●					horses, donkeys, mules	1 month	Cutaneous form most common; disseminated form rare; Cats: nodules develop into slow-healing ulcers; suppurative lymphadenitis; Dogs: nodules may or may not be ulcerated
PARASITES									
Acariasis (Mange) *Numerous species of mites*	●	●	●	●	●	●	bats, cattle, felids, fox, goats, horses, pigs, sheep, raccoons	10-60 days	Pruritic; secondary pyoderma; depression; anorexia; chronic infection may lead to hyperkeratotic lesions; fatal infestations may be seen in wild animals; Ferrets: pododermatitis; self-mutilation
Baylisascariasis *Baylisascaris procyonis*	●				●	●	raccoons, kinkajous *Birds highly susceptible to disease	10-20 days	Dogs, Raccoons: usually asymptomatic; Rodents, Rabbits: neurological signs; circling; torticollis; ataxia; head tremors; progressive weakness; dysphagia; death
Cysticercosis *Taenia species*	●	●			●	●	bears, cattle, goats, llamas, non-human primates, sheep, pigs, wild ruminants	10 days to 6 months	Severity of clinical signs depend upon number and location of larvae; Dogs, Cats: neurological signs
Echinococcosis *Echinococcus granulosus, E. multilocularis*	●	●				●	cattle, sheep, goats, horses, pigs, non-human primates	unknown	Carnivores: asymptomatic; incidental finding of cysts at necropsy; Herbivores: can affect liver, abdominal cavity; ascites; hepatomegaly; dyspnea; diarrhea; vomiting; weight loss; Rodents: fatal within weeks
Giardia *Giardia intestinalis*	●	●				●	beavers, cattle, sheep	5-14 days	Adults: may be asymptomatic; Young: diarrhea or soft stools; poor hair coat; flatulence; weight loss or failure to gain weight; clinical signs vary depending upon species of animal infected
Hookworms *Ancylostoma species*	●	●						7-20 days	Disease will vary with parasite burden and age of the animal; severe in puppies; diarrhea; anorexia; emaciation; weakness; poor hair coat; anemia; interdigital dermatitis, death
Roundworms *Toxocara species*	●	●						30 days	Severe in puppies and kittens; lack of growth; loss of condition; "potbellied"; parasites in vomit and feces; pneumonia; diarrhea
Leishmaniasis *Leishmania species*	●	●				●	canids, horses, marsupials, non-human primates	3 months to years	Cats: cutaneous form; non-pruritic exfoliative dermatitis around eyes, ears; Dogs: cutaneous lesions; fever; anemia; lymphadenopathy; weight loss; anorexia; ocular lesions; splenomegaly
Taeniasis *Taenia species*	●	●					coyotes, fox, lynx, non-human primates, wolves	5-12 weeks	Visible passage of proglottids from anus; other signs rare but may include unthriftiness; malaise; irritability; decreased appetite; mild diarrhea or colic
Toxoplasmosis *Toxoplasma gondii*		●			●	●	goats, horses, non-human primates, pigs, sheep	unknown	Most infections asymptomatic; Cats: lethargy; persistent fever; anorexia; incoordination; paralysis; retinal detachment; death; Dogs: most asymptomatic
Trichuriasis *Trichuris suis, T. trichiura, T. vulpis*	●						non-human primates, pigs	10-12 days	Most cases asymptomatic; mucoid or hemorrhagic diarrhea; weight loss; unthriftiness; anemia; death may occur in piglets

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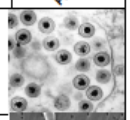
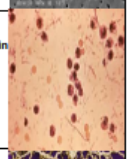
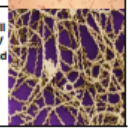
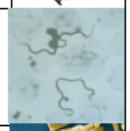
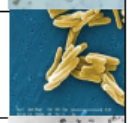
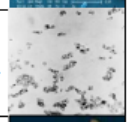
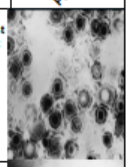
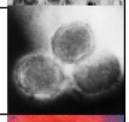
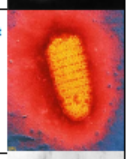
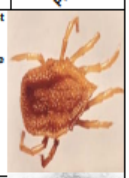
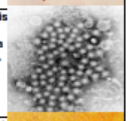
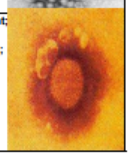
Zoonotic Disease Fact Sheet

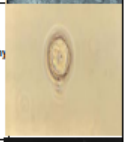
ZOONOTIC DISEASES FACT SHEET

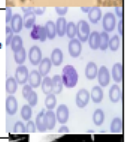
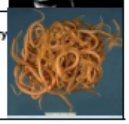
Disease	Pathogen	Genus species	Host Range	Transmission	Symptoms	Incubation	Fact	Treatment	Photo
Brucellosis*	Bacteria	Brucella (*B. melitensis, B. abortus, B. suis, B. canis*)	Infected animals (swine, cattle, goats, sheep, dogs)	Skin or mucous membrane contact with infected animals, their blood, tissue, and other body fluids	High and protracted (extended) fever. Infection affects bone, heart, gallbladder, kidney, spleen, and causes highly disseminated lesions and abscess	1-15 weeks	Most commonly reported U.S. laboratory-associated bacterial infection in man	Antibiotic combination: streptomycina, tetracycline, and sulfonamides	
Salmonellosis	Bacteria	Salmonella (*S. cholera-suis, S. enteriditis, S. typhymurium, S. typhi*)	Domestic (dogs, cats, monkeys, rodents, labor-atory rodents, rep-tiles (especially turtles], chickens and fish) and herd animals (cattle, chickens, pigs)	Direct contact as well as indirect consumption (eggs, food vehicles using eggs, etc.). Human to human transmission also possible	Mild gastroenteritis (diarrhea) to high fever, severe headache, and spleen enlargement. May lead to focal infection in any organ or tissue of the body)	6 hours to 3 days	Fatality rate of 5-10%	Antibiotic combination: chloramphenicol, neomycin, ampicillin	
Shigellosis*	Bacteria	All Shigella species	Captive non-human primates	Oral-fecal route	Ranges from asymptomatic carrier to severe bacillary dysentery with high fevers, weakness, severe abdominal cramps, prostration, edema of the face and neck, and diarrhea with blood, mucous and inflammatory cells	Varies by species. 16 hours to 7 days.	Highly infective. Low number of organisms capable of causing infec-tion. Rate of infection in im-ported monkeys can be high	Intravenous fluids and electrolytes, Antibiotics: ampicillin amoxicillin, trimethoprin-sulfamethoxazole	
Leptospirosis	Bacteria	*Leptospira interrogans*	Animal, human urine	Direct contact with urine of infected dogs, mice or rats. Indirect contact with urine contaminated materials. Droplet transmission via aerosols of urine	Phase 1: headache, muscle ache, eye pain with bright lights, chills and fever. Phase 2: fever with stiffness of the neck and inflammation of the nerves to the eyes, brain, spinal column	7-12 Days	Leptospirosis associated with liver and kidney disease is called Weil's syndrome, characterized by jaundice	Doxycycline and penicillin. Severely ill patients may need IV fluids, antibiotics and dialysis	

Disease	Pathogen	Genus species	Host Range	Transmission	Symptoms	Incubation	Fact	Treatment	Photo
Relapsing fever	Bacteria	Borreliae spp. [*B. recurrentis* (louse-borne), *B. hemsii* (tick-borne)]	Animals	Tick-borne, blood transfusions	Fever, headache and muscle pain that lasts 4-10 days and subsides. Afebrile period lasting 5-6 days followed by a recurrence of acute symptoms	5-15 days	Epidemic relapsing fever (transmitted by lice) is more severe than endemic relapsing fever (transmitted by ticks)	Tetracyclines, chloramphenicol	
Tuberculosis	Bacteria	*Mycobacterium tuberculosis*	Primarily humans, cattle, non-human primates, other animals (rodents)	Inhalation of aerosol droplets, contaminated equipment, bites	Ranges from fever and fatigue to chronic pulmonary disease (fatal). Lungs, kidney, vasculature (affects all parts of body)	2-5 weeks	Multidrug-resistant TB (MDR TB) is an infection resistant to at least two first-line anti-TB drugs, isoniazid and rifampicin	Isoniazid, rifampin, streptomycin, and ethambutol	
Melioidosis*	Bacteria	*Burkholderia pseudomallei* (formerly *Pseudomonas pseudomallei*)	Equines, especially horses and mules; humans are accidental hosts	Transmitted by inhaling dust contaminated by the bacteria and when contaminated soil comes in contact with abraded skin	Cholera-like symptoms (fever, chills, prostration). Skin lesions, swollen lymph glands, abscesses septicemia or pneumonia	2-4 days	Relatively uncommon disease for humans, but when left untreated, has 95% fatality rate	Chloramphenicol, doxycycline, sulfisoxazole, or cotrimoxazole. IV chloramphenicol for bacteremia	
Tularemia*	Bacteria	*Francisella tularensis*	Isolated from 100 species of wild animals (e.g., rabbits, skunk), 9 domestic mammals, 25 species of birds, frogs, and reptiles	Arthropods, direct or indirect contact, ingestion of contaminated meats, inhalation of dust, materials contaminated with urine, feces or tissues, bites and scratches	High fever, chills, headache, focal ulcers, swollen lymph nodes	1-10 days	Bacterium formerly known as *Pasteurella tularensis*	Streptomycin, tetracycline	

Disease	Pathogen	Genus species	Host Range	Transmission	Symptoms	Incubation	Fact	Treatment	Photo
Herpesvirus	Virus	Herpesvirus Type 1 (fever blister, cold sore) and Type 2 (genital herpes), Herpesvirus hominis, Herpes simiae (Herpes B)	Human, non-human primates	Produce latent infections in host and frequently shed without overt lesions	Frequently asymptomatic. May have vesicular lesions, neurological or flu-like symptoms	5 days to 1 month	Herpes simiae is 100% fatal if untreated; Herpes Types 1 and 2 are not fatal but cause chronic infection from recurrences	Acyclovir or valcyclovir will arrest the virus but will not eliminate virus from the host	
Poxvirus*	Virus	Monkeypox, vaccinia, cowpox, buffalopox, cantagalo, and aracatuba viruses	Non-human primates, swine, cattle, horses, birds	Direct skin contact with lesions on infected animals	Localized lesions, rash, fever, sore throat, malaise, encephalitis	Generally: 5-10 days after infection	Poxviruses are the largest and most complex viruses	smallpox vaccine, cidofovir, and vaccinia immune globulin (VIG)	
Rabies Virus	Virus	Rhabdoviridae, genus Lyssavirus	Natural reservoir: bats. All mammals: wild animals (raccoons, rodents, foxes, etc.) domestic animals (dogs, cats) and humans	Animal bite, contact with infected saliva or tissue	Headache, fever, malaise, nervousness, dilation of pupils, salivation, excessive perspiration, insomnia, paralysis of throat muscles, inability to swallow, convulsions, seizures, generalized paralysis and death	3-8 weeks	Untreated, the fatality rate is 100%; Post-exposure treatment is effective until day 6 post-infection	Antirabies vaccine *before* clinical onset of symptoms; post-exposure treatment with rabies immune globulin & vaccine	
Viral Hemorrhagic Fever*	Virus	Multiple species: *Filoviridae*; Ebola virus, Lassa virus, Marburg virus	Humans, non-human primates (Cynomolgous monkeys)	Contact with blood and body fluids of infected animals	Severe fever, sore throat, cough, diarrhea, vomiting, hemorrhage and death	2-21 days (5 - 12 days in most cases)	50-90% fatality rate for Ebola virus; 25% mortality rate for Marburg virus; 15-20% mortality for Lassa fever virus	No vaccines; Treat-ment directed at maintaining renal function, electrolyte balance and combating hemorrhage and shock	

Disease	Pathogen	Genus species	Host Range	Transmission	Symptoms	Incubation	Fact	Treatment	Photo
Arboviral infections*	Virus	Multiple species: *Togaviridae, Flaviviridae, Bunyaviridae, Arenaviridae*	Ticks, insects, infected animals (deer, birds, rodents, etc.)	Ticks, insects, blood transfusion	Various: viremia, lymphadenapothy leading to systemic infection. Can involve CNS (encephalitis), skin/bone marrow/blood vessels (hemorrhagic fevers)	Multiple Ranges; 14-25 days (Avg. 18 days) post infection	Causes: Rift Valley fever, Denque fever, Yellow fever; Sandfly (Hantavirus) fever; Omsk hemorrhagic fever, and West Nile virus infections	No vaccines for most (except yellow fever virus), no known antivirals; supportive treatment only	
Viral Hepatitis	Virus	Hepatitis A, B, C, D (delta), E, F, G	Humans, non-human primates (chimpanzee, wooly monkey, gorilla, Celebes ape, some marmosets	Close contact with infected animals or materials	Fever, anorexia, vague abdominal discomfort, nausea and vomiting, sometimes arthralgias and rash, often progressing to jaundice; fever may be absent or mild	3-6 weeks	Hepatitis A has no carrier state; Hepatitis B 20% chronic; Hepatitis C 85% chronic	Vaccines for Hepatitis A and B only. Treatment with alpha inter-feron and intra-venous immuno-globulins (HBIG)	
Lymphocytic Choriomeningitis (LCM)	Virus	Multiple arenaviruses	Rodents (hamsters, mice, guinea pigs), monkeys and humans	Infected mice excrete virus in saliva, urine and feces; man infected through inhalation of aerosolized particles of (urine, feces or saliva) contaminated with virus	Biphasic febrile illness, mild influenza like illness or occasionally meningeal or meningoencephalomyelitic symptoms, transverse myelitis	15-21 days	46 documented laboratory-acquired cases with 5 deaths; cases also reported arising from contaminated cell lines	No specific treatment; anti-inflammatory drugs may be useful; No known vaccines	

Disease	Pathogen	Genus species	Host Range	Transmission	Symptoms	Incubation	Fact	Treatment	Photo
Vesicular Stomatitis*	Virus	Multiple strains of Vesicular Stomatitis Virus (VSV) *Rhabdoviridiae*	Bovine, equine, porcine animals.	Probably arthropod-borne via the bite of an infected sandfly, mosquito or blackfly; by direct contact with infected animals (vesicular fluid, saliva)	Infuenza-like illness, malaise, fever, headache, nausea and vomiting	24-48 hours	Documented hazard to personnel (45 laboratory-acquired infections before 1980) handling infected livestock, tissues and virulent isolates	Virus is self-limiting and illness is short in duration. (3-6 days)	
Sub-viral Agents and Related Diseases (i.e., Scrapie)*	non-RNA/DNA Infectious Protein Virus-like particle	Transmissable Spongiform Encephalopathies (TSE): BSE and vCJD (vCreutzfeld-Jacob Disease)	Adult sheep goats, and cows can infect humans	Ingeston or handling of brain tissue or unfixed brain cells from infected animals	Degeneration of the nervous system, severe variable alteration of the grey matter of the brain	2-5 years	The agent responsible for TSE's is smaller than the smallest known virus and has not been completely characterized	There are no known treatments or vaccines for these TSE's	
Amoebic Dysentery	Parasite (protozoa)	*Entamoeba histolytica*	Monkeys can readily transmit the agent to humans	Food, water, fomites, insects. Fecal-oral route. Cyst is resistant to drying	Frequent passage of feces/stool, loose stools and vomiting. Variations depending on parasites. Can be frequent urge with high or low volume of stool, with or without some associated mucus and even blood	2 days to several months to even years	Harmless amoebas can live in the in-testines for years without causing symptoms. Attacks can last from a few days to weeks	Antiamebic drugs (Iodoquinol, metronidazole) and antibiotics to treat any associated bacterial infections	
Giardiasis	Parasite (protozoa)	*Giardia lamblia*	Dogs, monkeys	Drinking contaminated water, person-to-person contact, eating contaminated food, and direct contact with infected animals	Ranges from asymptomatic to nausea, fatigue, anorexia, severe diarrhea and high fever	3-25 days	Most common waterborne diarrheal disease in humans	Quinacrine hydrochloride, metronidazole, tinidazole, albendazole and furazolidone	

Disease	Pathogen	Genus species	Host Range	Transmission	Symptoms	Incubation	Fact	Treatment	Photo
Balantadidiasis	Parasite (protozoa)	*Balantidium coli*	Monkeys, pigs, and other nonhuman primates readily transmitted to humans	Direct contact with feces, person-to-person transmission	Ranges from asymptomatic to severe diarrhea	4-5 days	Cysts survive for long periods in the environment	Tetracycline, Iodoquinol, metronidazole	
Malaria	Parasite (protozoa)	Plasmodium species: *P. falciparum* *P. vivax* *P. ovale* *P. malariae*	Anopheles mosquito	Mosquito bite	Fever, chills sweating, headache, nausea, vomiting, muscle pain, anemia, bloody stools, jaundice, convulsion, coma	10 days to 4 weeks after infection; symptoms then cycle every 48 days	A malaria vaccine has been developed and is being tested in Africa. Results are promising	Chloroquine, primaquine phosphate, Malorone	
Toxoplasmosis	Parasite (protozoa)	*Toxoplasma gondii*	Amazing lack of host specificity. Primates, carnivores (felines), rodents, birds, undulates	Consuming under-cooked infected meats; ingestion of oocysts in milk, food or water; inhalation of oocysts;-contact with soil containing contaminated cat feces;	Localized lymphadenopathy accompanied with fever, sore throat, rash, pneumonitis, myocarditis, and encephalitis	10-23 days following ingestion of contamin-ated meats, or inhalation of aerosols	Affects one third of the human race. Especially infective to immunosupressed individuals	Sulfonomides (sulfadiazene, sulfamerazine, sulfamethazine), pyrimethamine	
Ascariasis (Roundworm)	Nematode	Multiple Ascaris species (*A. lumbricoides*, *A. suum*)	Pigs; Humans are the definitive host	Ingestion of contaminated food or water	Lung damage, intestinal symptoms	4 to 8 weeks	*Ascaris lumbricoidesis* the largest and, globally, the most widespread of all human intestinal roundworms	Pyrantel pamoate, mebendazole, surgery for removal in lung tissue	

Disease	Pathogen	Genus species	Host Range	Transmission	Symptoms	Incubation	Fact	Treatment	Photo
Visceral Larval Migrans (VLM)	Nematode	Nematodes of the Toxocara genus (*T. canis, T. felis*)	Dogs, cats	Ingestion of eggs through direct contact with feces or contaminated materials	Fever, cough, wheezing, itching/irritation associated with migration of nematodes into tissues. Ocular migration may cause blindness	4 to 7 weeks	More than 80% of all puppies in the U.S. are infected with this nematode	Usually a self-limiting disease--treatment only given in severe cases (glucocorticoids and bronchodilators for pulmonary disease)	
Strongyloidiasis	Nematode	*Strongyloides stercoralis*	Dogs, cats, monkeys	Careless handling of contaminated fecal materials	Abdominal pain, diarrhea, and rash. Less commonly, nausea, vomiting, weight loss and cough. Severe infection can cause severe tissue damage, systemic damage of various tissues in the body and potential death	skin 7 hours; lung 1 week; intestines 2 wks; average 4-21 days	The parasite penetrates the skin and migrates to the lungs. Then it travels up to the mouth and is swallowed into the intestinal tract	Ivermectin with Albendazole as the alternative	
Trichinosis	Nematode	*Trichinella spiralis*	Generally pigs or cattle	Eating undercooked flesh of animals infected with the larvae	Nausea, vomiting, diarrhea, fever, neurological disorders, possible cardiac involvement	Abdominal symptoms: 1-2 days. Further symptoms 2-8 weeks after infection	Over 100 species of animals may be a host of this parasite	Thiabendazole (Mintezol), Albendazole (Albenza), Mebendazole (Vermox), Prednisone	

*Images were obtained from the U.S. Centers for Disease Control & Prevention Public Health Image Library (PHIL). 08/2008

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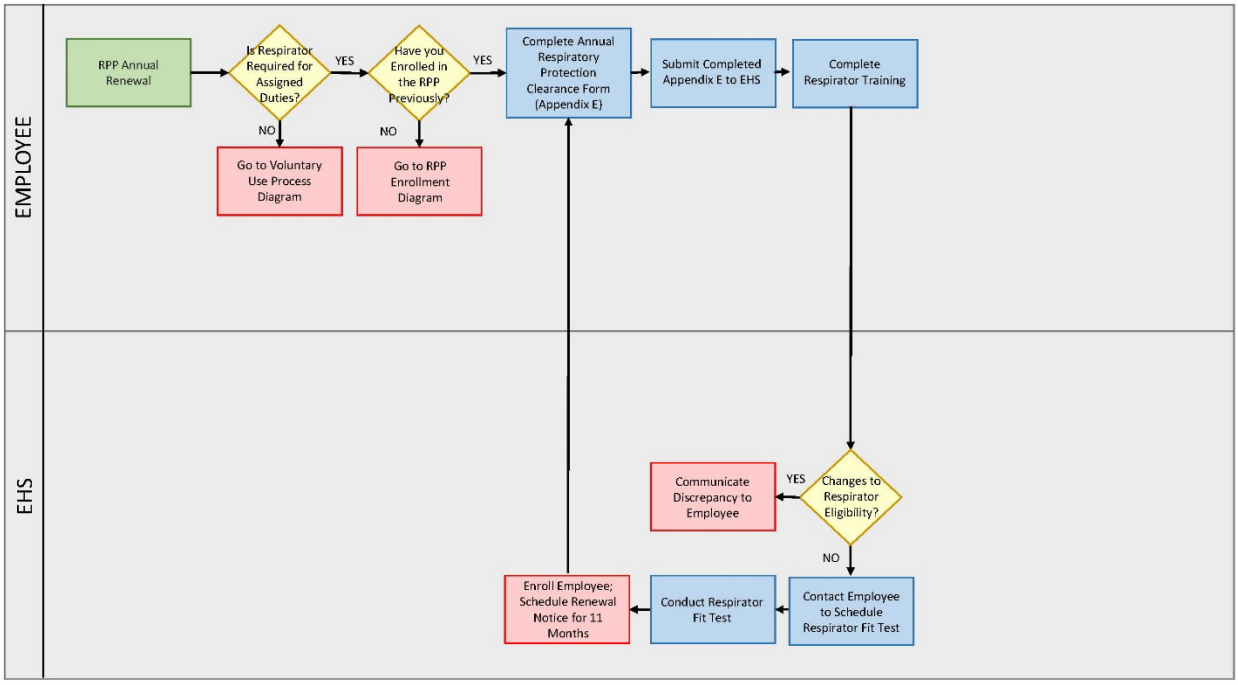
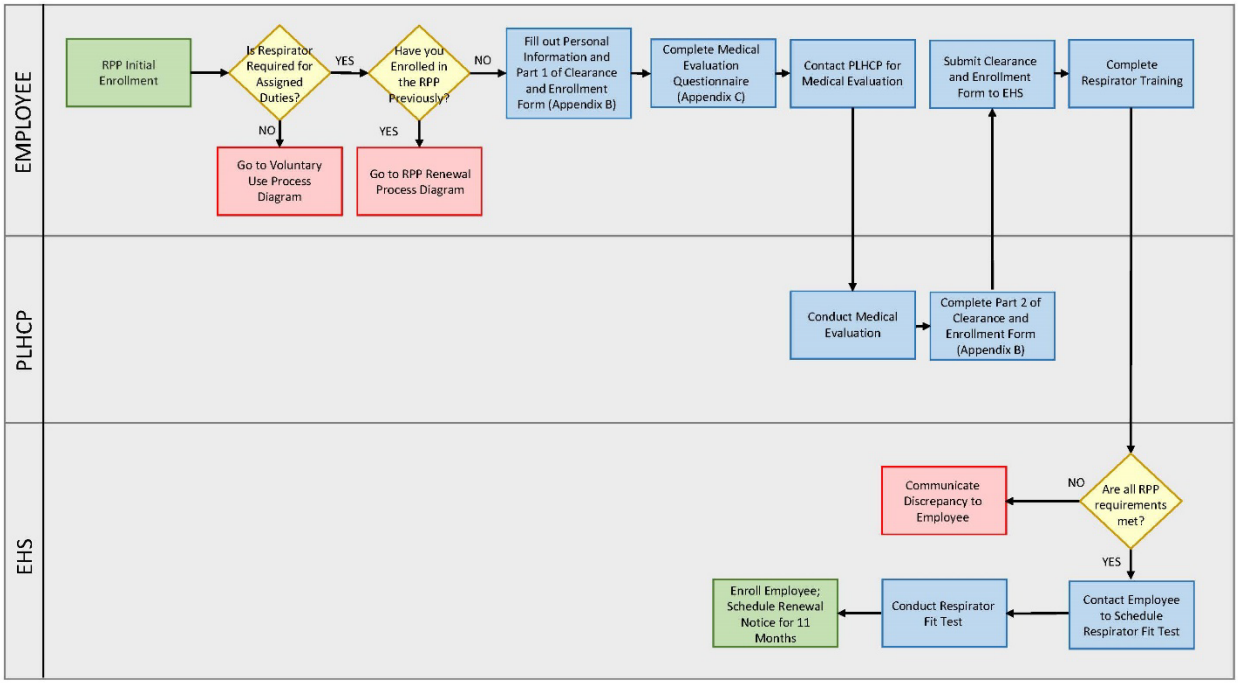
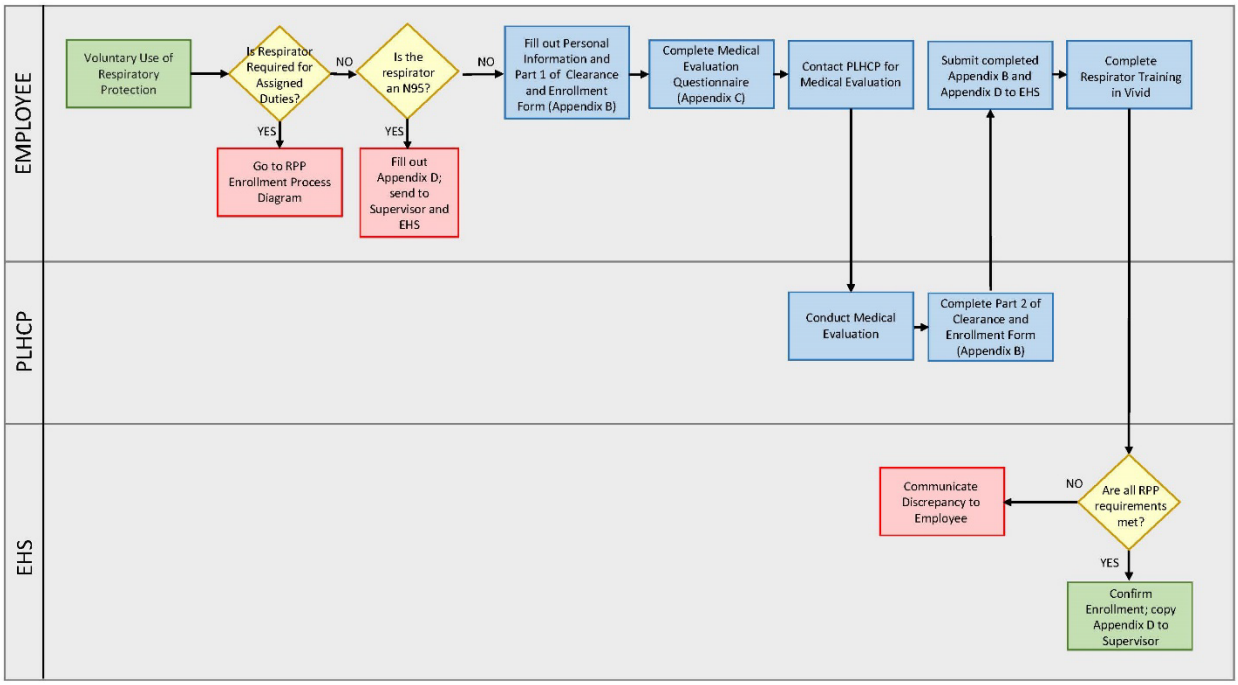
Annual RPP Enrollment Diagram



Initial RPP Enrollment Diagram



Voluntary Use RPP Enrollment Diagram