

Feline Panleukopenia Virus (aka Feline Distemper or Feline Parvo)

Infectious Disease Profile

Type: unenveloped DNA virus.

Clinical Signs:

GI symptoms (diarrhea, vomiting)

Fever (24hr), lethargy, anorexia

Sudden death

Unborn kittens: cerebellar hypoplasia

Diagnostic tests:

Canine Parvo SNAP (<10 min): vomit/feces

May get false + with vax

May get false – with small sample,
intermittent shedding

CBC (10min-24hrs): blood- low white cell#

PCR (>24hrs): vomit/feces

Necropsy (30 min): segmental necrosis

Time until onset (incubation period):

average 5-7 days (range **2-14** days)

Usual course of disease: Fever, listlessness and lethargy develops into anorexia, with possible vomiting/diarrhea before septic shock, DIC and death in 24-48 hours. 100-50% of unvaccinated cats die even with treatment. Illness in recovering cats lasts 5-7 days. Since the virus attacks intestinal villi, diarrhea may continue for >5 days after recovery while the GI tract lining regrows. Subclinical infections (no signs but shedding!) may occur in some cats. Recovered cats will be immune, probably for life.

Treatment: aggressive supportive care **only if appropriate biosecurity** and isolation is possible. Strict isolation, IV fluids, dextrose, antibiotics, anti-emetics, and trickle feeding are common therapies. Euthanasia often

the right choice for patient welfare and for herd health.

Transmission: **Bodily fluids**, especially vomit and feces, fomites (hands, thermometers, anything) carrying fluid particles, contaminated (poorly sanitized) environment. Fluids can be aerosolized into droplets. Virus can remain infective **>1 year** in contaminated environments. Can infect raccoons and ferrets/mink.

Sanitation requirements: Quaternary ammonium products are **not** effective. Use **Trifectant®**, **Bleach** (1:32), or **Rescue™** (1:16) with appropriate contact times (>10min).

Shedding: Recovered cats may shed for up to **3 weeks** after recovering. Shedding can be intermittent. Negative SNAP test likely indicates reduced/negligible shedding.

Prevention: MLV SQ **vaccination** before intake or within 1 hour of shelter intake of ALL incoming cats <4wo (regardless of health status). Protection achieved 24-48hrs. Kittens <16 weeks are particularly vulnerable because of maternal antibody interference; **vaccination every 2 weeks** until 4mo and **foster** until surgery/adoption is highly recommended. **Isolation** of all animals with infectious GI symptoms is also recommended.

Outbreak risk assessment: Some communities (and seasons) see more panleukopenia than others. Highly contagious, highly fatal. Investigate **vaccination**, sanitation, biosecurity, especially if kittens are frequently “found dead.”

Feline Dermatophytosis
(aka Ringworm, *Microsporum canis*)
Infectious Disease Profile

Type: Fungal skin infection

Clinical signs:

Skin: semi-circular areas of patchy hair loss
May have no symptoms.

Diagnostic tests:

Wood's Lamp (<5min): many with *M. canis* will have glowing apple-green hairs

Trichogram (10min): pluck hairs and examine w/ microscope

PCR (3-5days): pluck/brush hairs

Culture (2-14days): pluck/brush hairs and incubate. Monitor daily. Positive plates typically grow **<7 days**, white colonies with *immediate* red color change. If no growth >14 days, considered negative.

Time until onset: 2-4 weeks for lesions. May start to shed spores 1 week before signs. Can remain in the environment >1 yr.

Usual course of disease: Esp. kittens. One or more areas of **patchy alopecia** with mild dermal crusting and occasional scabs. Most commonly affected are **face, ears, feet**. May progress to hair loss throughout body, especially if stressed or immuno-suppressed. Cats may clear the infection on their own in 4-6 months. With proper treatment, cats may cure as early as 3wks after diagnosis. Cure is defined as 2 consecutive negative DTM cultures read daily for 14 days.

Treatment: Usually consists of both a **daily oral** antifungal (itraconazole or terbinafine) **and topical** bath or **dip** (typically 8oz/gal lime sulfur in the US) twice weekly. During treatment, lime sulfur inactivates spores on

hairs the cat sheds. Lesions resolve in 1-2 weeks. Cure in 4-6 wks.

Transmission: Hair and skin particles shed into the environment carry infective spores. **Any mammal** can contract *M. canis*. This is a **zoonotic** disease, meaning that **people** can get this disease from infected cats and environments.

Sanitation requirements: Difficult to kill and persistent! Control of hair and organic material in the environment is key. Use **Bleach** (1:32) or **Rescue™** (1:8), along with removing all cloth, carpeting, and hair. Normal washing and drying of laundry (high heat, no bleach) is effective in killing dermatophyte spores.

Shedding: Cats that are not infected may carry active spores on their coats, acting as **"dustmops."** Cats with **unrecognized infections** shed spores into the environment. Cats with healed lesions may continue to shed spores if dips are stopped too early; DTM culture is the best way to identify whether a cat is shedding or not. Cats with positive cultures of any type should be dipped.

Prevention: There are no effective vaccinations for dermatophytosis. Thorough physical exam and **Wood's lamp** on intake, keeping litters of kittens separated, and managing pet hair can all help to prevent spread in the shelter. Regularly cleaning with disinfectants like bleach, Trifectant®, and Rescue™ can help prevent spread.

Risk assessment: Contagious but **mild** disease for cats. Significant implications for shelter-wide outbreaks and transmission to shelter staff and adopted families.

Rabies Virus

Infectious Disease Profile

Type: DNA virus

Time until onset:

Variable- signs may not show until 3-12 weeks (range 10 days to 6 months) after being bitten by infected animal. Bats, skunks, raccoons, and foxes carry wildlife rabies in the US; pet animals that have had contact with these species should be re-vaccinated and quarantined.

Clinical signs:

Aggression, hydrophobia, salivation, paralysis, unusual behavior, lethargy, death.

Diagnostic tests:

No tests are available for living animals.

IFA histopathology: (~24hrs) Microscopic examination of brain tissue is the only currently validated test.

Antibody titers: (>2 weeks) for testing vaccine response in certain circumstances

Treatment/Management:

No treatment is currently known. If bitten by a rabid animal, **euthanasia** is mandated by health department unless quarantine or proof of vaccination is available.

Vaccination and 4-month quarantine for unvaccinated dogs and cats after exposure.

Vaccination and 45-day quarantine for vaccinated dogs and cats after exposure.

Other regulations exist for ferrets, livestock, and wildlife (including wolf- or coyote-dog hybrids).

Transmission:

Bite, scratch, or contact with neurological or ocular tissue.

Sanitation requirements:

Does not survive in the environment, only direct transmission occurs.

Shedding:

Shedding starts several days before clinical signs become apparent. Infective tissues include saliva, neurological tissue, ocular tissue, or any bodily fluid.

Prevention:

Recognition of abnormal or neurological behavior and isolation of suspect animals. Behavior training to avoid dog bites. Judicious physical and chemical restraint.

Risk assessment:

Cats are 3x more likely to test positive than dogs in the US. Always **fatal** but very rare. Endemic areas exist. Vaccinate all domestic animals, recommend vaccination livestock and for all animal-handling staff. Comply with bite quarantines; know quarantine laws if working with health department. Contact your local health department with any suspicions or concerns.

Canine Distemper Virus
(aka Hardpad Disease)
Infectious Disease Profile

Type: Enveloped RNA virus.

Clinical signs: **Coughing, nasal discharge, ocular discharge**, (kennel cough signs) anorexia, vomiting, diarrhea, twitching, seizures, death. **Puppies** most commonly affected.

Diagnostic tests:

Conjunctival swab (<5min): inclusion bodies in epithelial cells on dif-quick stained slide

RT-PCR: (2-3days) conjunctival or nasal swabs, send to lab

Titers for Distemper antibodies: (~30min-3 days) blood, bedside kit or send to lab.

Necropsy: requires histology

Time until onset (incubation period): usually 2-4 weeks (range **10 days-6 weeks**)

Usual course of disease: Generally in this order (may overlap or skip):

immunosuppression, then oculonasal discharge and conjunctivitis. Anorexia, vomiting, diarrhea (+/- blood). Wasting, dehydration, systemic collapse.

Hypersalivation, chewing type seizures, grand mal seizures. Hyperkeratosis. Rarely, pustules or measles-like rash. Up to 50% of unvaccinated animals die. Some animals may be infected and shedding but show no clinical signs. Some show signs associated with secondary infections. Dogs with neurological disease are more likely to die, may never fully recover and may shed copiously.

Treatment: Supportive care (IV fluids, antibiotics, anti-nausea meds, B vitamins). No specific treatments available.

Transmission: All bodily secretions, but most commonly inhalation of **airborne** virus or **direct contact** with infected dogs. Dogs, ferrets, coyotes, skunks, raccoons, lions, tigers, sea lions, seals, dolphins.

Sanitation requirements: Routine cleaning and disinfection. Will not survive in the environment >2-3 days.

Shedding: Starts appx **1 week** after exposure (1 week **before** clinical signs) to up to **6 months** post-infection. PCR can help detect shedding post-infection.

Prevention: **MLV vaccination** is extremely protective. Partial immunity possible in 4-6hrs, full immunity in 48-72hrs. Maternal antibodies may interfere with puppy vaccination- puppies should be placed in **foster** homes and vaccinated **every 2 weeks** from 4 weeks until 4 months old. Dogs with respiratory or GI disease should be **isolated** from healthy dogs. Dogs and puppies should not be co-housed.

Risk assessment: Some communities see more distemper than others. Highly contagious, highly fatal. Investigate **vaccination**, sanitation, biosecurity, especially if large numbers of dogs are coughing.