

Vesicular Diseases Reference Chart

| | Foot-and-Mouth Disease | Vesicular Stomatitis | Swine Vesicular Disease | Vesicular Exanthema of Swine |
|----------------------------------|--|---|--|---|
| Etiology | Aphthovirus | Vesiculovirus | Enterovirus | Calicivirus |
| Geographic Distribution | Endemic in Asia, Africa, Middle East, parts of South America; U.S. free since 1929 | North & Central America, northern South America | Many European countries | U.S. only (eradicated in 1956) |
| Transmission | Respiratory aerosols; oral consumption; direct and indirect (fomite) contact | Insect vectors (sand flies & black flies); contact, aerosol in humans | Ingestion of contaminated meat; contact with animals, feces | Ingestion of uncooked garbage contaminated with pork |
| Incubation Period | Ingestion 1-3 days, Exposure 3-5 days | Animals 3-5 (up to 21) days, Humans 24-48 hours | Ingestion 2-3 days, Exposure 2-7 days | 18-72 hours |
| Clinical Signs by Species | All vesicular diseases produce a fever with vesicles that progress to erosions in the mouth, nares, muzzle, teats, and feet. These 4 diseases are clinically indistinguishable from each other, particularly in swine. | | | |
| Notification | State & Federal Veterinarians should be contacted IMMEDIATELY and informed of suspicions | | | |
| Cattle | Disease Indicators Oral & hoof lesions; salivation, drooling; lameness; abortions; death in young animals; "panthers" | Vesicles in oral cavity, mammary glands, coronary bands, interdigital space | Not affected | Not affected |
| Pigs | Amplifying Hosts Severe hoof lesions; hoof sloughing; snout vesicles; less severe oral lesions | Same as cattle | Severe signs in animals housed on concrete; lameness; salivation; neurological signs; more severe in young | Deeper lesions with formation of granulation tissue on the feet |
| Sheep & Goats | Maintenance Hosts Mild signs if any | Rarely show signs | Not affected | Not affected |
| Horses, Donkeys, Mules | Not affected | Most severe with oral and coronary band vesicles; drooling; rub mouths on objects; lameness | Not affected | Not affected |
| Humans | Not common | Flu-like signs, headache, rare oral blisters | Not affected | Seroconversion and mild meningitis in one lab worker |
| Clinical Summary | Salivation and lameness with vesicles; Equidae not affected | Horses are affected; less contagious so spread is slower; lesions in one area of body | Pigs only; mild lesions; no mortality | Pigs only; deeper lesions; low mortality |

Vesicular Diseases Reference Chart- Additional Information

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|------------------------------------|---|---|---|---|
| Morbidity & Mortality | Morbidity 100%; Mortality less than 1%, severe in young | Morbidity varies, up to 90%; Mortality low; death in young less common | Morbidity is low; lesions less severe; Mortality not a concern | Morbidity varies, up to 100%; Mortality is low |
| Differentials | Rinderpest, bovine herpes virus 1 (IBR), BVD, bovine papular stomatitis, malignant catarrhal fever, bluetongue, contagious ecthyma, lip and leg ulceration, foot rot, chemical and thermal burns | | | |
| Post-Mortem Lesions | Single or multiple vesicles, ruptured vesicles with demarcation line, "dry" lesions in pig oral cavity, coronitis, hoof wall separation, "Tiger heart" lesions, rumen pillar lesions | Similar to FMD, but without heart and rumen lesions | Similar to FMD | Similar to FMD |
| Sample Collection | Before collecting or sending any samples, the proper authorities should be contacted. Samples should only be sent under secure conditions to authorized laboratories to prevent spread. | | | |
| Prefer | Epithelium from unruptured or recently ruptured vesicles in proper medium | | | |
| Additional Samples/ Tissues | Esophageal-pharyngeal fluid (cattle) or throat swab (pigs), 5ml blood with anticoagulant; 10ml for serum, lymph nodes, thyroid, adrenal gland, kidney, heart in formalin | Vesicular fluid collected aseptically and frozen | Vesicular fluid collected aseptically and frozen; unclotted whole blood from febrile animals; fecal and serum samples from infected and noninfected animals | Vesicular fluid collected aseptically and frozen; unclotted whole blood from febrile animals; fecal and serum samples from infected and noninfected animals |
| Sample Packaging | Caution with dry ice as carbon dioxide will inactivate the virus | Virus inactivated by 1% formalin | | |
| Disinfection | 2% sodium hydroxide (lye), 4% sodium carbonate, 5% acetic acid; 6% hypochlorite; Resistant to iodophores, quaternary ammonium compounds, and phenol, especially with organic matter present. | 2% sodium hydroxide (lye), 4% sodium carbonate, 2% iodophores, chlorine dioxide | 10% formalin, 2% sodium hydroxide (lye), iodophores, chlorine dioxide | Organic matter: 1% sodium hydroxide combined with detergent No Organic Matter: oxidizing agents and iodophores with detergents |
| Prevention & Control | Destroy litter and susceptible animal products | Control insects, no movement of animals from farm for 30 days | | |