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## Equine Herpesvirus-1 Outbreak in Valencia, Spain

The California Department of Food and Agriculture (CDFA) is closely following a current equine herpesvirus-1 (EHV-1) outbreak at a large equine sporting event in Valencia, Spain. Several horses have been diagnosed with a neuropathogenic strain of EHV-1 leading to Equine Herpes Myeloencephalopathy (EHM). The neurologic manifestation of EHV-1 infection has led to the death of several horses that acquired the disease in Spain. However, as of today, no reported EHV-1 infection has been diagnosed in horses that have been imported from Europe to California.

In California, EHM is a regulatory condition. Any horse exhibiting neurologic signs and testing positive for EHV-1, either wild-type or with the neuropathogenic marker, must be reported to CDFA within forty-eight (48) hours of discovery. These positive horses and any exposed horses are immediately put under an official CDFA quarantine and monitored closely for any clinical signs associated with EHV-1 infection.

At this time, CDFA does not recommend screening non-clinical horses that have not been exposed to the disease. However, horses that are imported from other countries, other states or even moved from one facility to another within the same state should be isolated upon arrival from other horses. Proper biosecurity measures should be applied including but not limited to isolation, restricting personnel, cleaning and disinfection. Temperature monitoring twice daily during isolation is encouraged as a fever is a common first clinical sign in infectious diseases.

CAHFS offers diagnosis for EHV-1, including differentiation of neuropathogenic and non-neuropathogenic strains. The samples of choice are nasal swabs and whole blood collected from symptomatic horses. Serum can also be submitted for serology; detection of antibodies to EHV-1 indicate past exposure to EHV-1, but not necessarily current infection. The serology is not specific for EHV-1 as it detects also antibodies against equine herpes virus type 4, it does not distinguish between field and vaccine exposure, and 2 samples separated a few weeks from each other are required for evaluating the result.

For additional information, please visit the [CDFA EHV-1 website](#) the American Association of Equine Practitioners ([AAEP website](#)).

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## Pig

*Mycoplasma hyopneumoniae* enzootic pneumonia was diagnosed in a 3-month-old, male castrated pig with respiratory disease unresponsive to antibiotics and dewormers. Tissues from this animal were submitted to the laboratory. Histology demonstrated tracheitis and extensive chronic pneumonia compatible with *M. hyopneumoniae* infection. *M. hyopneumoniae* was detected in lung by PCR. Enzootic pneumonia is a highly contagious and chronic disease affecting pigs. Poor air quality (dust or noxious gases) can irritate airways and increase susceptibility.





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## Equine

Cecal rupture leading to peracute peritonitis caused the death of a 22-year-old Quarter horse gelding with a history of anorexia for a week and no stool in the rectum. On necropsy, there was a 25 cm transmural tear with hemorrhage and edema along the mesenteric border of the body of the cecum. Fluid and feed material were present in the peritoneum. A 12 cm diameter enterolith was found in the right ventral colon just past the base of the cecum, and a second enterolith was found in the right dorsal colon just proximal to the transverse colon junction. The latter was empty.

## Bovine

**Malignant catarrhal fever** due to **ovine herpesvirus-2 (OvHV-2)** was the cause of death in an 8-month-old Angus bull exhibiting breathing difficulty followed by death within 24 hours, despite antibiotic and Banamine treatment. On necropsy, there were pharyngeal and extensive esophageal ulcers and pulmonary edema. OvHV-2 was detected by PCR in the spleen, and tissue copper and selenium were markedly low compatible with nutritional deficiency. Bovine viral diarrhea virus was not detected. This animal was housed on a property near sheep, which was the likely source of the virus.

**Nitrate toxicosis** was the cause of sudden death in a 5-year-old Milking Shorthorn cow which was one of three cattle found dead without premonitory signs. On necropsy, the cow was in very good body condition. The ocular fluid had 62ppm nitrates (toxic at 25ppm). The hay submitted had 16,000 ppm, (sudden death from nitrates occurs at levels of 10,000ppm) confirming the source. Nitrates cause death by inducing methemoglobin formation in the blood, which becomes unable to transport oxygen. The blood becomes brown. However the brown blood may not be evident if the postmortem interval is extended.

## Small ruminants

**Clostridium perfringens type D enterotoxemia** was the cause of death of a 21-day-old Dorper lamb from a flock of 10. The lamb had a fever

of 103.8°F and loss of balance for one day prior to death. There was abundant yellow fluid in the heart sac that clotted on exposure to air. Glucose was found in the urine and multiple red foci were seen in the midbrain. The lamb had abundant milk curds in the abomasum and forage in the rumen. Histopathology revealed multiple areas of malacia in the midbrain, medulla and cerebellar peduncles. Epsilon toxin was detected in intestinal contents by ELISA, and *C. perfringens* type D was isolated from small intestinal content.

## Poultry and Other Avian

**Respiratory infections**, swollen eyelids and increased mortality were due to a combination of *Mycoplasma gallisepticum*, *Escherichia coli* and infectious bronchitis virus infections in 7-week-old broiler chickens in a flock of 20,000 birds.

**Salt toxicosis** was diagnosed in 15-day-old turkey poults in two flocks of 12,500 birds. The birds had neurological signs and increased mortality. Analysis of feed and brains revealed elevated levels of sodium and microscopically the birds had bilaterally symmetrical encephalomalacia.

### Salmonellosis outbreak in wild birds

The California Department of Fish and Wildlife (CDFW) has reported an increase in sick or dead finches. The primary species affected are the pine siskins with fewer cases seen in lesser goldfinches and American goldfinches. More information on this outbreak is available on the [CDFW web site](#).

