

# EQUINE REPRODUCTION SVC

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## Equine Lymphosarcoma



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lymph nodes are the most commonly observed clinical signs.

Lymphocytes are an important component of the equine immune system. Like all cells within the body, lymphocytes have the potential to undergo neoplastic (cancerous) transformation that results in uncontrolled regulation and growth.

Lymphosarcoma is the proliferation of neoplastic lymphocytes. Equine lymphosarcoma is relatively common, but the exact incidence is unknown. The majority of cases occur in horses aged 4 to 15 years, but cases have been described in horses of all ages.

Epidemiologic studies suggest no apparent gender or breed predisposition. Like many equine cancers, the cause of lymphosarcoma is rarely identified, but certain bacteria and viruses have been implicated in its development.

Four anatomical categories are frequently utilized for classification of lymphosarcoma: multicentric (generalized or within multiple locations), thymic (mediastinal, within the chest cavity), alimentary (intestinal), or cutaneous (skin or extranodal).

Clinical signs can develop abruptly or over several months. Signs can develop due to organ dysfunction directly related to infiltration by neoplastic lymphocytes; physical obstruction caused by neoplastic masses; or from neoplastic byproducts (paraneoplastic syndrome). Depression, weight loss, subcutaneous edema, fever, anemia, and lymphadenopathy (swollen lymph nodes) are the most commonly observed clinical signs, but signs can vary based on the affected organs.

Multicentric, thymic, and cutaneous forms can compress the airways and esophagus and result in respiratory or swallowing abnormalities. The intestinal form can result in colic, diarrhea, and weight loss. Cutaneous nodules can be observed in or under the skin; these masses can be influenced by hormones, thus could wax and wane in size. Various paraneoplastic syndromes have been described in horses and include: hypercalcemia, pseudohyperparathyroidism (a disorder characterized by elevated levels of blood calcium resulting from production of a parathyroid hormonelike substance by a tumor.), pruritus and alopecia (itching and hair loss), and immune-mediated hemolytic anemia and thrombocytopenia (low platelet counts).

Veterinarians might suspect a diagnosis of cancer after visualization of cutaneous nodules, transectal palpation of abdominal masses, or detection of masses by radiology, ultrasonography, or surgery.

Clinical differentiation of neoplasia from nonneoplastic lesions is difficult. A definitive diagnosis of lymphosarcoma is made by microscopic visualization of neoplastic lymphocytes in body fluids, fine needle aspirates, surgical biopsies, or necropsy samples.

The majority of horses diagnosed with lymphosarcoma either die or are humanely euthanized within months after developing clinical signs. Horses with the cutaneous form typically have longer survival times in comparison to those with other forms. Treatment is infrequently attempted, but temporary improvement might occur following surgical excision, or treatment with hormones, chemotherapeutics, immunomodulators, and corticosteroids.

The University of Kentucky Veterinary Diagnostic Laboratory diagnosed 57 cases of equine lymphosarcoma from September 2009 to September 2015. Diagnoses were made from 30 surgical biopsies, 23 necropsies, and four cytologic examinations. These cases represented 51 horses of seven different breeds. The age of affected animals ranged from a fetus at 300 days of gestation to a 27-year-old gelding; the mode was three years of age and included six cases. Cases were composed of 21 multicentric, 15 cutaneous, 13 lymphoid (lymph node, spleen, or thymus), and five alimentary lymphosarcomas. Additionally, one case was diagnosed from thoracic effusion (fluid) and two cases from abdominal effusions.

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