

**Histiocytic Sarcoma in Dogs**  
**Clinical Oncology Service**  
**Ryan Veterinary Hospital of the University of Pennsylvania**

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Histiocytic sarcoma (HS) is an aggressive cancer seen in a variety of locations. Most dogs are middle-aged to older, although dogs of any age can be affected. HS can occur in any dog breed; however, certain breeds are predisposed, including Bernese Mountain dogs, Flat-Coated Retrievers, and Rottweilers.

HS can occur in various forms: localized, disseminated, and hemophagocytic. Localized HS commonly occurs in bones, joints, skin, and lungs. Disseminated HS affects multiple organ systems at once. The less common hemophagocytic form is thought to arise from splenic tissue and follows a more rapidly progressive course.

Clinical signs vary depending on the anatomic locations involved, but nonspecific signs such as lethargy, decreased appetite, and weight loss are common especially in patients with internal or visceral involvement. Other signs include coughing, difficulty breathing, lameness, vomiting, and diarrhea. If the disease is localized to the skin, there may be no clinical signs or changes in behavior. You may only notice a new mass when petting your dog.

Complete evaluation of a dog suspected of having HS begins with obtaining a biopsy or aspirate (needle sample) of the affected tissue. Once a diagnosis is made, further diagnostic tests are performed to search for disease in other locations, known as staging, as HS can spread to other areas of the body. A complete blood count (CBC), serum chemistry profile, and urinalysis are recommended and provide important information regarding the effects of the cancer on body functions as well as the ability of the patient to handle future treatments. Lymph nodes that drain the area of the tumor or any abnormal lymph nodes should be sampled (aspirate or biopsy) to evaluate for any spread of the cancer. Chest x-rays and abdominal ultrasound allow us to look for evidence of cancer spread into the lungs and abdominal organs (spleen, liver), respectively. Once we have these results, we can then decide upon the available treatment options for an individual dog and provide some information about prognosis.

Surgical resection is often recommended for HS localized to the skin, bone, and joint. This could involve removal of a skin mass with wide margins or an amputation of the affected limb. Surgery is not recommended for disseminated HS, as systemic therapy such as chemotherapy is more appropriate in these cases. Chemotherapy is recommended as follow-up treatment to surgery in localized HS and as primary treatment in disseminated HS.

Prognosis depends on the extent of disease and whether or not metastasis is present. Localized HS that is treated aggressively with surgery and chemotherapy have reported median survival times of 1-1.5 years. Prognosis is poor for localized cases with metastasis and disseminated cases with reported survival times of months.