

Protein-Losing Enteropathy (PLE) in Dogs

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What is protein-losing enteropathy?

Protein-losing enteropathy (PLE) is a fancy way of saying that excessive protein is lost from the gastrointestinal tract. Normally, protein that leaks into the intestines is digested into amino acids; these are then reabsorbed and made into protein again. Excessive loss of protein can occur through the gastrointestinal tract as a result of certain conditions:

- Gastrointestinal disease
- Lymphatic diseases
- Congestive heart failure

Symptoms of protein-losing enteropathy

Clinical signs may start out as subtle, but untreated they can quickly progress to become severe and potentially life threatening:

- Decreased appetite
- Being a "picky" eater
- Vomiting
- Diarrhea
- Lethargy
- Weight loss
- Pot-bellied appearance (due to fluid accumulation within the abdomen)
- Blood-tinged, mucoid diarrhea
- Difficulty breathing (due to fluid accumulation in the chest cavity)

Your veterinarian may detect additional physical examination abnormalities:

- Muscle wasting
- Thickened intestines on palpation
- Fluid in the abdomen
- Abnormal rectal exam
- Increased lymph nodes
- A heart murmur

- Dull lung sounds

Disease associated with protein-losing enteropathy

If you notice any signs, get to your veterinarian immediately for a physical examination and potential blood work. Preliminary diagnosis of PLE is made based on low albumin and protein levels on the blood work. A prompt, complete work-up is necessary to rule out certain diseases associated with PLE:

- Intestinal lymphangiectasia
- Cancer (e.g., [lymphosarcoma](#)) of the intestinal tract
- [Inflammatory bowel disease](#) (e.g., lymphoplasmacytic enteritis)
- [Food allergies](#)
- [Gastroenteritis](#) (from viral, fungal, or bacterial infections)
- Stomach ulcers
- Severe chronic starvation
- Granulomatous infiltration of the intestines (secondary to fungal infections)
- Abnormalities of the intestines (from a chronic foreign body, intestinal parasites, an intussusception, hemorrhagic gastroenteritis, etc.)
- Ulcerative gastroenteritis

Is my dog at risk?

Certain breeds are more predisposed to these diseases which likely means there is an inherited component: [yorkshire terriers](#), [soft-coated wheaten terriers](#), [basenjis](#), and [Norwegian lundhunds](#) are more often predisposed to PLE. Any breed showing any of the signs above should be worked up for PLE immediately; the sooner you diagnose it, the better the long-term outcome.

Diagnosing protein-losing enteropathy

Certain tests need to be performed to rule out PLE:

- Complete blood count (CBC) to look at the white and red blood cells and platelets
- Chemistry panel to look at the kidney, liver, and protein levels
- Electrolytes to look at the calcium, phosphorous, and salt balance (e.g., sodium and potassium)
- Urinalysis to look for the loss of protein from the kidneys, called protein-losing nephropathy

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- Fecal exam (to rule out intestinal parasites)
- X-rays of the chest and abdomen to rule out evidence of heart disease, fungal infections, cancer or abnormal fluid accumulation
- Abdominal ultrasound to measure the size of the intestines and look for evidence of increased lymph nodes, foreign bodies, cancer, etc.
- Endoscopy to biopsy the stomach, intestines, and rectum (although full-thickness biopsies [which require surgery] are typically necessary to rule out certain types of disease like lymphangiectasia)
- Surgical exploratory to evaluate all the organs and perform multiple, full-thickness biopsies

Treatment of protein-losing enteropathy

Depending on the results of these tests, treatment often includes deworming (for parasitic infections), antiulcer medication (if gastric ulcers are present), chronic prednisone (for treatment of [inflammatory bowel disease](#)), dietary changes to a hypoallergenic or select protein diet for inflammatory bowel disease, procedures to remove the fluid from the chest or abdomen (e.g., thoracocentesis or abdominocentesis), vitamin supplementation, or even surgery.

Even with aggressive treatment, PLE can dramatically shorten the lifespan of your dog. Untreated, PLE can be fatal. When it comes to PLE, the sooner you and your veterinarian identify it, the sooner your dog can begin treatment.

If you have any questions or concerns, you should always visit or call your veterinarian -- they are your best resource to ensure the health and well-being of your pets.