

Chylothorax

ABOUT THE DIAGNOSIS

Chylothorax is the accumulation of a fluid called chyle in the chest cavity. The lymphatic system, which is a network of lymph ducts and lymph nodes, collects waste fluid from the within tissues and returns it to the bloodstream. Chyle refers to lymph fluid collected from the intestines and carried by the thoracic (chest) lymph duct. Since the intestines absorb fat from the diet, chyle is a liquid that is high in fat content and has a milky appearance. A few cases of chylothorax are caused by trauma—the thoracic lymph duct is torn when the animal suffers a blow of some sort. Many other cases occur because of increased pressure in the thoracic duct. For example, heart disease or masses within the chest can interfere with lymph flow and result in increased pressure in the thoracic lymph duct. Chyle then leaks from the thoracic lymph duct into the chest cavity. In the majority of cases, however, no trauma or other trigger has occurred and the cause of chylothorax is not known; it is suspected that an inherent weakness in the wall of the thoracic duct allows it to rupture and seep chyle into the chest cavity, even in the absence of an inciting cause like trauma. In chylothorax, chyle occupies some of the space in the chest normally filled by the lungs. This partially collapses the lungs, and the resulting loss of lung capacity causes the pet to have trouble getting enough air. Chylothorax occurs in both cats and dogs.

SYMPTOMS: Labored, rapid breathing is the most noticeable sign. Gums that are normally pink in color may take on a grayish-blue color if there is a severe oxygen deficiency. The pet often will be inactive or unwilling to move as much as usual. If the condition develops slowly, lack of appetite and weight loss may occur as the main symptoms.

DIAGNOSIS: Your veterinarian may suspect the presence of fluid in the chest cavity after listening to the chest sounds with a stethoscope. A small needle and syringe can be used for drawing off some of the fluid for analysis, which confirms chylothorax. In order to confirm whether excess fluid is in the chest, ultrasound examinations and/or x-rays are appropriate. Underlying causes such as tumors or masses within the chest or heart disease may also be detected with these procedures.

LIVING WITH THE DIAGNOSIS

Occasionally, some pets with chylothorax will spontaneously recover after weeks or months. Fluid often needs to be drawn off the chest periodically in the meantime, whenever the pet's breathing becomes difficult. This is done by a process known as thoracocentesis (see [Diagnosis](#), above), which simply involves using a fine needle and syringe to withdraw a significant amount of the fluid. When thoracocentesis is not sufficient to keep the fluid away, surgery can help some cases, and in others underlying problems can be corrected. Sometimes scar tissue forms in the chest and permanently coats ("shrink-wraps") the lungs. This process, known as fibrosing pleuritis, is one of the worst complications of chylothorax; it is not known why some individuals do not develop fibrosing pleuritis while others do, and there is no effective treatment if this happens. Therefore it is important to identify chylothorax in its earliest possible stages and to follow the condition closely with recheck appointments. Frequent rechecks and fluid withdrawal

help reduce the risk of chronic accumulation of chyle, which would be a risk factor for fibrosing pleuritis.

TREATMENT

The first step is to draw off enough fluid through a needle to allow the pet to breathe comfortably (thoracocentesis) and to confirm chylothorax via laboratory analysis of the fluid. If an underlying cause has been found, it should be treated, to address the chylothorax at its root cause. In most pets no cause can be identified. Surgical procedures to ligate (tie off) the thoracic duct can help many pets. Another treatment approach, if no cause can be found, is to draw off the fluid periodically as needed in the hope that the condition will correct itself. The decision to proceed with surgery or to administer medications without surgical operations is an important one, and is governed by available surgical expertise, cost, and severity of the problem. In general, surgical risks are greater in the short-term compared to a conservative approach of medications and periodic fluid withdrawal, but the long-term benefit of surgery is often greater than the long-term benefit of a conservative approach. You may wish to discuss the advantages and drawbacks of either approach as part of a second opinion, and your veterinarian can refer you to an internal medicine specialist (directories available at www.acvim.org in North America www.ecvim-ca.org in Europe).

DOs

- Watch your pet for breathing difficulty. Counting the number of breaths per minute is one way to monitor breathing. In dogs, however, normal panting makes counting breaths frustrating. Therefore, it is also worth noting when a pet with chylothorax seems uncomfortable, short of breath, or otherwise breathing with excess effort for no apparent reason. In cats, this can typically manifest as "belly-breathing," an excessive movement of the abdomen that accompanies discomfort and rapid, uncomfortable breathing in cats with respiratory distress.
- A low-fat diet may slow the reaccumulation of fluid; if your veterinarian prescribes a low-fat diet, be sure not to feed treats containing fat.

DON'Ts

- Don't excite your pet or encourage him/her to exercise excessively. Pets will normally restrict their activity to match the loss of breathing capacity.

WHEN TO CALL YOUR VETERINARIAN

- If breathing becomes rapid and difficult.
- If your pet becomes inactive or stops eating.

SIGNS TO WATCH FOR

As initial symptoms of chylothorax, or signs of recurrence warranting an immediate recheck:

- Difficult, rapid breathing
- Gums that turn blue or gray in color (an indication of lack of oxygen) together with increased respirations
- Inability to stand up and move normally
- Lack of appetite or weight loss

ROUTINE FOLLOW-UP

- Frequent visits to draw off fluid will be needed if underlying problems cannot be corrected and surgery is not done. After successful treatment of chylothorax, your pet should be reexamined periodically by your veterinarian to check for reoccurrence.

Other information that may be useful: "How-To" Client Education Sheet:

- How to Count Respirations and Monitor Respiratory Effort

Practice Stamp or Name & Address