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## ANIMAL EMERGENCY CENTER

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# LUNG TUMORS IN PETS

## Background

Lung tumors are uncommon in dogs and cats. Like most tumors in animals and people, we do not know why they occur. Tumors typically arise from the glands in the lungs or the lining of the airways. The majority of lung tumors in animals are malignant, with the potential for relatively rapid growth and eventual spread.

## Clinical Signs

The most common presenting complaint for animals with lung tumors is a cough. *Sometimes this cough may initially improve with anti-inflammatory medications or bronchodilator drugs.* Other signs that can be seen include decreased energy level, difficulty breathing, decreased appetite or weight loss, and occasionally, lameness.

## Diagnosis and Initial Evaluation

When a pet comes in with a cough, a number of tests are performed. The most useful test is usually **X-rays of the chest**. A lung tumor will often appear as a fairly large, solitary mass in one lung lobe. The most commonly affected part of the lung is toward the back and top of the chest, although tumors can occur in other parts of the lung as well. Some basic blood tests looking at organ function, blood cell number, and any signs of infection or inflammation are also often performed.

Other procedures which may be performed prior to devising a treatment plan include a **fine needle aspirate** of the lung mass, and/or a **CT scan** of the chest. A fine needle aspirate allows a small number of cells from the lung mass to be removed and looked at under the microscope. Confirmation of tumor can be obtained in approximately 90% of cases, and the risk of complications from the procedure is very low. A CT scan allows the lung tissue and lymph nodes in the chest to be evaluated with very great detail – areas of tumor in other parts of the lung or enlargement of lymph nodes that may not be detectable on plain X-rays can sometimes be identified. This information can be important for some owners, because dogs treated with surgery have a worse prognosis if areas of tumor spread to the lymph node or other parts of the lung tissue is identified. A final test which will sometimes be performed is an **ultrasound examination of the abdomen**. This non-invasive test insures that there are no worrisome abnormalities in any of the abdominal organs.

## Treatment and Prognosis

In those cases where the tumor occurs in such a way that surgery is possible, **surgery** is the treatment of choice. The average survival time after surgery is approximately 1 year. However, the outcome varies considerably depending on (1) The presence or absence of

spread to the lymph nodes that drain the lung tissue; *dogs with lymph node involvement live an average of 2 months with surgery alone, while dogs without lymph node involvement live an average of 15 months, with 1/3 doing well for more than 2 years.* (2) The microscopic appearance of the tumor after surgery; *dogs and cats with well differentiated tumors are likely to do well for an average of 18 months, whereas dogs and cats with poorly differentiated tumors are likely to develop problems after an average of 2 months.*

For lung tumors where there is a poor prognosis after surgery, **chemotherapy** can be considered. There are no studies that prove for certain that animals receiving chemotherapy after surgery do better than animals that do not, however there is encouraging preliminary evidence that certain chemotherapy drugs may be helpful in delaying or preventing recurrence of lung tumors after surgery. Most pets tolerate chemotherapy very well, with only a small likelihood of developing worrisome side effects (please see the handout CHEMOTHERAPY IN PETS for more detailed information about this type of treatment).

In cases where surgery cannot be performed or has been declined, we will sometimes consider using chemotherapy to try to shrink the tumors and improve clinical signs, or at least keep them from growing for as long as possible. The likelihood of achieving a durable response is usually less than 20%.

## **Follow-up**

Following the completion of treatment, we recommend that your pet be seen every 3 months for additional X-rays of the lungs. If things go well, rechecks are decreased after 18 months to twice per year. Should evidence of tumor re-growth be seen at some point in the future, additional treatment may be considered.