

## Nasal Tumors

These notes are provided to help you understand the diagnosis or possible diagnosis of cancer in your pet. For general information on cancer in pets ask for our handout "What is Cancer". Your veterinarian may suggest certain tests to help confirm or eliminate diagnosis, and to help assess treatment options and likely outcomes. Because individual situations and responses vary, and because cancers often behave unpredictably, science can only give us a guide. However, information and understanding for tumors in animals is improving all the time.

We understand that this can be a very worrying time. We apologize for the need to use some technical language. If you have any questions please do not hesitate to ask us.

### ***What types of nasal tumors are there?***

In some cases, chronic inflammation of the nose (rhinitis) leads to proliferation (hyperplasia) and formation of polyps in the nose or throat. These are not cancerous but may need removal. The chronic inflammation is often due to infections with viruses, bacteria and/or fungi and also occurs in animals with a tendency to allergies (atopic animals). Some chronic infections predispose to cancer.



Most cancers originate from the lining of the nose (epithelium). Benign tumors (adenomas) are rare but if they are surgically removable, they are curable. Malignant tumors (carcinomas) are more common with many different types. All of them invade and destroy adjacent structures. They rarely spread (metastasize) elsewhere in the body. A few carcinomas originate from hormone-producing neuroendocrine cells. These may invade the brain.

A few cancers originate from the supporting connective tissues of the nose (cartilage, fibrous tissue or bone). These sarcomas tend to be less aggressive than carcinomas but can rarely be removed surgically. They may also recur following surgical removal.

Non-cancerous proliferation of the lymph tissue (which includes the tonsils) forms nodules that physically obstruct air flow. These are common and probably the result of chronic or multiple infections. Cancer of the lymph tissue in the nose and throat is rarer but occurs in cats.

### ***What do we know about the cause?***

The reason why a particular pet may develop this, or any cancer, is not straightforward. Cancer is often seemingly the culmination of a series of circumstances that come together for the unfortunate individual.

Chronic inflammation due to bacteria, fungi and viruses may predispose to cancerous change. Viruses have been found in some tumors in cats and farm animals. Environmental factors may also be involved in initiating some cancers. Cancers of the lymphoid cells in young to middle aged cats are often due to infection with oncornaviruses (feline leukemia virus, FeLV).

### ***Why has my pet developed this cancer?***

Some animals have a greater tendency (genetic susceptibility) to cancer. Some breeds have far more cancers than others, often of specific types. The more divisions a cell undergoes, the more probable is a mutation so cancer is more common in older animals. A few tumors need hormones to start growing or to enable them to persist.

### ***Are these common tumors?***

Primary tumors of the nose are rare in dogs. They comprise less than 1% of tumors and are estimated to have an incidence of 2.5 per 100,000 dogs. The risk of developing tumors is highest in old dogs but the mean age of affected dogs is approximately nine years. They have been observed in dogs less than six months of age. Rough Collies and Shelties have a high incidence of nasal tumors and short-nosed breeds have fewer tumors at this site. Half the tumors occur in both nostrils. Tumors in the nose are more common in cats than in dogs.

Benign tumors (adenomas) are rare. Carcinomas are the most common nasal tumors with sarcomas of cartilage, fibrous tissue and bone in decreasing order of frequency. Lymphoid tumors in this area are rare in dogs but moderately common in cats and usually occur at a younger age than carcinomas.

### ***How will these cancers affect my pet?***

Regardless of sub-type, tumors are soft, pale masses that cause compression, destruction and loss of function of adjacent structures. There is usually blood stained or thick, creamy discharge from one or both nostrils. Sneezing, shortage of breath and weeping eyes are possible and at later stages, the face may be deformed and the eyes may bulge. Occasionally, the first signs relate to pressure on the brain with behavioral changes, circling and sight problems.

### ***How are these cancers diagnosed?***

Radiography and computed tomography can often provide a high probability of diagnosis. Radiologically, there is usually a homogenous increase in density compared with destruction of bone in inflammation. However, distinction of cancer from inflammation is not always possible and definitive diagnosis relies on histopathology.

Cytology, the microscopic examination of cell samples washed out of the nose is not reliable and larger pieces of tissue need to be taken for histopathology. Larger samples enable more reliable diagnosis of cancer but sometimes repeated biopsies are needed. Histopathology is done at a specialized laboratory by a veterinary pathologist.



### ***What types of treatment are available?***

Surgery and radiotherapy are the only treatments shown to be of benefit. Interstitial brachytherapy, the insertion of radioactive material into the tumor, has given some useful remission. Radiotherapy may prolong survival but not by more than a few months. Surgery often presents problems. The tumors are usually infected and inflamed so antibiotics and anti-inflammatory drugs may make your pet more comfortable.

### ***Can these cancers disappear without treatment?***

Cancer rarely disappears without treatment but as development is a multi-step process, it may stop at some stages. The body's own immune system can kill cancer cells but it is rarely 100% effective. Rarely, loss of blood supply to a cancer will make it die but the dead tissue will probably need surgical removal.

### ***How can I nurse my pet?***

After surgery, you may be provided with an "Elizabethan collar" to prevent your pet from interfering with the operation site which needs to be kept clean. Any loss of stitches or significant swelling or bleeding should be reported to your veterinarian.



If you require additional advice on post-surgical care, please ask.

### ***How will I know how the cancer will behave?***

Histopathology will give your veterinarian the diagnosis that helps to indicate how the tumor is likely to behave. The veterinary pathologist usually adds a prognosis that describes the probability of local recurrence or metastasis (distant spread).

### ***When will I know if the cancer is permanently cured?***

'Cured' has to be a guarded term in dealing with any cancer.

Most nasal polyps persist because they have become mainly scar tissue (fibrosed) so removal should cure them permanently. Lymphoid hyperplasia should become less of a problem as your cat becomes older.

Many tumors can have their behavior predicted by the stage at which they are diagnosed but this is not predictive for these tumors of the nose.

Benign cancers (adenomas) are rare but if they are surgically removable, they are curable. Nasal carcinomas typically grow slowly but they invade and destroy adjacent structures. The neuroendocrine type tend to invade the brain. Distant spread is unusual. Dogs and cats seldom survive more than a year after diagnosis. Carcinomas are more invasive and destructive than sarcomas.

Chondrosarcomas tend to grow by expanding locally. The median survival of dogs with these cancers after a variety of treatments including radiation therapy ranges from 7 to 17 months. Osteosarcomas and fibrosarcomas tend to be more aggressive.

***Are there any risks to my family or other pets?*** No, these are not infectious tumors and are not transmitted from pet to pet or from pets to people.