

# Fibrosarcoma Tumors in Dogs

## Overview

Fibrosarcomas are slow-growing, malignant (cancerous) tumors most often found in the connective tissue of the skin and beneath the skin. While these tumors may be removed successfully, they frequently recur after surgery. It is rare that fibrosarcomas metastasize (spread) to other parts of the body.

These tumors are difficult to classify and are often thought of as a group because of the parallel resemblance in their presentation. Therefore, there are several different names in addition to fibrosarcoma that you may hear when this category of tumors is discussed. Neurofibromas, peripheral nerve sheath tumors, spindle cell tumors, schwannomas, and hemangiopericytomas are all names for fibrosarcoma-type tumors.

## Cause and Presentation of Fibrosarcoma Tumors

The cause of these tumors is unknown but it is thought that cancer, in general, is the result of many contributing factors that cause genetic injury to cells. Examples of such factors are exposure to chemicals or radiation (carcinogens), infection, hormonal changes, and, more often seen in cats, certain vaccinations. With cancer, the injured or mutated cells begin to multiply at an accelerated rate. The overgrowth of cells is what results in a tumor.

Fibrosarcomas are seen most often in large-breed, middle-aged to older male dogs. The tumors are often seen on the limbs but may be found on the trunk, as well. There have been incidences of an aggressive form of fibrosarcoma in dogs under 1 year of age, and in these cases, the prognosis is usually poor.

As these tumors are difficult to classify and are often thought of as a group, it is difficult to determine an accurate percentage of fibrosarcomas among diagnosed tumors.

## Diagnosis

To ensure an accurate diagnosis, microscopic examination of the cells of the tumor is required.

There are different methods of sample collection that

can be used to acquire these cells:

- **Fine-needle aspiration (FNA):** Using a syringe and needle, the veterinarian will penetrate the tumor and withdraw cells from within the tumor. Generally no sedation is required for this procedure. FNA is not typically used to diagnose fibrosarcomas because, due to the nature of the tumor, it is difficult to aspirate the cells needed for identification.
- **Punch biopsy:** Using either a scalpel or an actual punch (a circular-shaped knife that works in a "cookie-cutter" manner), the veterinarian can obtain, with minimal bleeding, a small biopsy that will include skin and underlying tissue for examination. This procedure sometimes requires light-to-moderate sedation.
- **Excisional biopsy:** An excisional biopsy will involve complete surgical removal of the tumor, as well as a wide area of skin surrounding the tumor. Anesthesia is required for this procedure.

Once your veterinarian has the required sample, it will be prepared for expert examination accordingly. The sample should be sent to a veterinary pathologist for evaluation. Pathologists are specialists in the microscopic examination of tissue samples and can provide a more precise diagnosis.

Following examination of the sample, the pathologist will supply a report to your veterinarian, which will help her or him move forward with a treatment plan. The report characteristically includes the identification of the tumor type, as well as the grade of the tumor, high or low. The grade depends on the rate of cell division (mitotic rate). Fibrosarcomas are generally graded as high, indicating a visibly high number of dividing, cancerous cells. The report also provides the pathologist's prognosis and opinion on whether or not the margins of the tumor at removal were adequate, and if removal was complete.

## Treatment

Surgery is the primary treatment for this type of tumor. Surgical treatment can range from removal of the lump to, in extreme cases, removal of the affected limb, if necessary. Radiotherapy, alone or in addition to surgery (which is more often the case), can be of benefit, while

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chemotherapy is generally less effective. In some cases, having your pet evaluated by a veterinarian who specializes in treating cancer, an oncologist, will be advantageous.

With fibrosarcomas, it is important to keep in mind that complete removal is usually not possible due to the tumor's location, as well as its invasive nature. It is difficult to remove the tumor and surrounding tissue and still leave enough skin to close the site with sutures; consequently, recurrence is fairly frequent.

### Home care for Fibrosarcomas

Fibrosarcomas often become ulcerated and, if they do, are prone to infection, so it is important to watch the tumor for any inflammation or bleeding, as dogs will often rub, lick, scratch, and bite at the tumor.

Postsurgically, the same care regarding the surgery site needs to be taken to ensure that the healing process takes place.

A fibrosarcoma is not transferable from pet to human or other pet.

*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.*