

Breast Cancer in Dogs and Cats

- Breast cancer is the uncontrolled growth of abnormal mammary gland (breast) cells.
- Tumors occur most frequently in older, female pets that have not been spayed.
- Most (80% to 90%) mammary tumors in cats are malignant (cancerous), while 50% of mammary masses in dogs are malignant.
- While the cause of breast cancer is unknown, hormones are thought to play a role.
- Signs of breast cancer include firm nodules in the tissue around the nipples, ulcerated skin, and swollen, inflamed nipples with or without discharge.
- Breast cancer is best diagnosed with a surgical biopsy.
- Blood work and radiographs (x-rays) are usually recommended to help determine if the cancerous cells have spread to other parts of the body.
- Tumors are treated with surgical removal and possibly radiation therapy and/or chemotherapy.
- Spaying female pets before their first heat cycle is the best way to prevent breast cancer.

What Is Breast Cancer?

Breast cancer is the uncontrolled growth of abnormal mammary gland (breast) cells. If left untreated, certain types of breast cancer can metastasize (spread) to other mammary glands, lymph nodes, the lungs, and other organs throughout the body.

While any pet can develop mammary tumors, these masses occur most often in older, female dogs and cats that have not been spayed. Siamese cats have a higher risk for breast cancer than other feline breeds.

In cats, 80% to 90% of these tumors are malignant (cancerous). Dogs fare a little better: 50% of mammary tumors are malignant. Any suspicious lump in the mammary area should be examined by a veterinarian as soon as possible.

What Causes Breast Cancer?

The exact cause of mammary gland cancer is unknown. However, dogs and cats that are spayed before their

first heat cycle are less likely to have breast cancer, so hormones may play a role.

Treatment with hormones for other conditions may increase the risk for this type of cancer. In the past, hormones were used to treat some behavior and skin problems in cats, but this has generally fallen out of favor. Some hormone treatments are still being used in dogs, such as estrogen in the treatment of urinary incontinence, but other alternatives are usually available.

Genetics may also play a role in canine breast cancer. Recent findings show that certain genes are overexpressed in dogs with this condition.

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What Are the Signs of Breast Cancer?

There's no way to determine if a lump is cancerous simply by feeling it. But since *any* lump in the mammary area has the potential to be cancerous, it's a good idea to check your pet regularly.

Mammary tumors tend to be firm, nodular masses that feel like BB pellets under the skin. Tumors may be located in a single mammary gland (the area around one nipple), or they may be in several mammary glands at once. The skin covering the tumor may be ulcerated or infected. Nipples may be swollen or red, and there may be discharge from the nipple itself.

How Is Breast Cancer Diagnosed?

The best way to diagnose breast cancer is with a surgical biopsy (tissue sample) of the mass. In dogs with large masses, it may be possible to obtain a fine needle aspirate of the tumor, which involves placing a needle into the mass and extracting cells for examination under the microscope. This procedure may be more difficult with smaller masses or in cats. Since a biopsy usually provides a larger tissue sample

Common Conditions

(likely to yield a more definitive diagnosis), this is the best option. Biopsies generally require some form of anesthesia or sedation, so your veterinarian may recommend a preanesthetic evaluation and/or blood work.

How Is Breast Cancer Treated?

Early detection and surgical removal of the masses is the best treatment option. Before performing surgery, your veterinarian will most likely recommend blood work and radiographs (x-rays). Chest radiographs are important to check for metastases to the lungs, and abdominal radiographs may show signs of enlarged lymph nodes. If the radiographs show no evidence of metastasis, the pet has a better prognosis.

Because of the high rate of malignancy in cats and the fact that cancer often invades several mammary glands along the same side of the body, a radical mastectomy with removal of all mammary glands on the same side is often recommended. For cats with masses on both sides, two separate surgeries several weeks apart may need to be performed.

Unless dogs have multiple tumors, they may not need to have as much tissue removed as cats. Submission of the tissue for microscopic examination will determine if the tumors have been completely removed.

If your pet still has her ovaries and uterus, your veterinarian may recommend spaying your pet at the time of mammary surgery.

Following surgery, your veterinarian may recommend radiation therapy or chemotherapy. Radiation therapy is designed to kill any potentially cancerous cells in a focused area. Chemotherapy involves systemic drugs that treat cancerous cells that may have travelled to other parts of the body.

Can Breast Cancer Be Prevented?

The best way to prevent breast cancer is to have your pet spayed before her first heat cycle. Even spaying your pet by 1 year of age can help reduce breast cancer risk. Pets that are spayed later in life will be at higher risk for breast cancer.