

Orthopaedics
Oncology

Medicine
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Soft tissue surgery
Specialist Imaging

Cardiology
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Neurology
Physiotherapy

Mammary cancer in dogs and cats

Mammary (breast) tumours are very common in intact female dogs and cats. The risk of developing mammary tumours is very low in pets spayed early. Therefore, the hormonal influence on development of these tumours is very well established. Unlike in women, genetic mutations driving growth of mammary tumours are not well recognised in female dogs or cats, meaning mammary tumours in pets tend not to show the same familial patterns recognised in humans.

Mammary tumours are often found by your veterinarian incidentally, for example during examination for the yearly booster vaccination. Palpation of the mammary glands in a female dog or cat is part of the physical examination and it often allows detection of any lumps at early stage. Most of the time, pets are feeling well and usually not showing any symptoms, even if the growth is malignant.



Approximately half of mammary tumours in dogs are malignant and half of those may eventually spread to other part of the body. However in cats, almost 90% of feline mammary tumours will be malignant. The most common sites of spread are the regional lymph nodes (glands) and lungs. Surgical removal is the most effective therapy for any mammary tumour. For small or benign tumours, complete surgical excision may be curative. Prior to performing surgery, additional tests assessing your pet's general health such as blood and urine test may be performed, especially in adult or elderly dogs/cats. We will also discuss imaging such as CT or X-rays of the chest and ultrasound examination of the abdomen, along with biopsy of the local lymph nodes to ensure that there is no evidence of metastases (spread) to other areas of the body. If spread is detected, it might change the type of treatment we are likely to offer and the expected outcome.

Biopsy of the tumour prior to removal is not often performed for a few reasons. A tumour initially shown to be benign may transform to being malignant at later stage. Additionally, within the same lump, a mixture of benign and malignant tissue may be present and a biopsy could miss the malignant part. We therefore recommend removal of the mass from the outset. The recommended surgical treatment for mammary tumours in dogs is removal of the affected gland. In dogs with multiple tumours, we might recommend a chain mastectomy (removal of the entire mammary chain on one side) to ensure that all malignant tissue is removed. If your dog is intact, we might recommend performing a spay (neutering) at the time of surgery or at a later date. It will not necessarily prevent development of further mammary tumours in future but it reduces the risk of life-threatening diseases such as pyometra (infection of the uterus) and uterine cancer.

Extraordinary People
Exceptional Care

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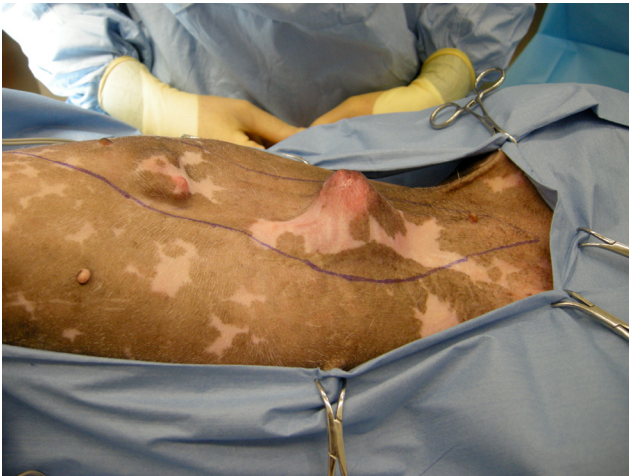
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Treatment

Surgical recommendations are different in cats. The aggressive nature of most feline mammary tumours, means we usually recommend a chain mastectomy. In this procedure, all mammary tissue on both sides, plus the lymph nodes draining the mammary area are removed. This is often performed in a staged procedure, where the chain on one side is removed and the second side is removed approximately 4-6 weeks later. The suture line following a chain mastectomy extends from the armpit to the groin area. Cats may be required to wear an E-collar to discourage them from chewing or licking at the sutures. It is very important that the cat's activity must be restricted for a short time after surgery to avoid fluid build-up along the suture line or dehiscence (wound breakdown).



Surgery of the mammary area is generally very well tolerated in dogs and cats and no second reconstruction is required at a later date. They are managed for pain relief very carefully and kept hospitalized until we are sure that they are comfortable and eating and drinking normally before they are discharged for home rest and recovery. There is no complex aftercare necessary once they have come home.

Following removal, the pathologist will evaluate the tissue for factors such as malignancy, lymphatic or vascular invasion (presence of tumour cells in lymph or blood vessels) and whether clean margins have been achieved. Based on this information, along with tumour size and results of the scan, post-surgical treatment with chemotherapy may be recommended. These options will be discussed with you after surgery, if appropriate. If any additional treatment is necessary, it can be commenced 10-14 days after surgery (at the same appointment when the sutures will be removed).

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While we have no large, prospective studies on how effective chemotherapy is for improving the survival in dogs or cats with malignant mammary tumours after surgery, there are drugs that have been used and showed some effectiveness. Some drugs are given by injection and some are tablets given orally. Novel treatments such as metronomic chemotherapy or target therapy with tyrosine kinase inhibitors can be considered as well. Metronomic therapy usually consists of a non-steroidal anti-inflammatory drug (such as meloxicam, firocoxib or others) and low dose alkylating agent (such as cyclophosphamide or chlorambucil), given on a continuous or semi-continuous basis by mouth. This type of therapy inhibits the developing blood supply to the tumour and has effects on the immune system, promoting anti-tumour immunity (assisting the body's anti-tumour defences). Tyrosine kinase inhibitors (such as toceranib) also interfere with the blood supply to the tumour and thus tumour cell survival. Although these drugs are usually well tolerated, dogs and cats will require regular rechecks to ensure no adverse effects develop. Please refer to our chemotherapy brochure for more information.

Following the completion of treatment, especially with malignant tumours, we recommend regular rechecks with your veterinarian or us. Typically, we would recommend a thorough physical examination initially once a month and every other month thereafter. We also recommend repeated imaging studies every 3 months to monitor for tumour spread. Should tumour spread or recurrence be detected at later stage, further treatments are usually possible. For example, chemotherapy may be able to cause significant tumour shrinkage in approximately half the cats treated, which can provide benefit for various amounts of time.

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