



Mammary (breast) tumours in dogs & cats

Quick take

Dogs: Mammary tumours are common in intact females. About **half are malignant** overall; **outcome varies by tumour type, size, grade, and lymph-node status**. Surgery cures many dogs when the tumour is small, fully removed, and hasn't spread.

Cats: Mammary tumours are usually **malignant (carcinomas)** and **behave aggressively**. Best results come from early, wide surgical removal of the entire affected chain (radical mastectomy), sometimes staged on both sides.

Prevention matters: Spaying before first heat slashes lifetime risk in dogs ($\approx 0.5\%$ if spayed before the first heat vs 8% after one heat, 26% after two). In cats, spaying before 6 months cuts risk by about 91% , and before 1 year by 86% .

1) What's going on inside

Hormones (oestrogen/progesterone) influence mammary tissue growth. Over years, cells can acquire changes that make them grow without control, forming a lump.

Dogs: roughly half of mammary masses are benign (e.g., adenomas/benign mixed tumours) and half malignant (carcinomas or, less often, sarcomas). Some dogs have multiple tumours at once; each needs its own diagnosis.

Cats: most mammary tumours are **malignant carcinomas that can spread to lymph nodes or lungs**; aggressive surgery is standard. **Tumour size** is a powerful predictor—smaller is better. What owners usually notice: a pea-to-grape sized lump along the milk line, which may stay small or grow; sometimes multiple nodules.



2) How vets stage and plan

- Exam & imaging: chest X-rays (\pm CT), abdominal ultrasound, and evaluation of regional lymph nodes.
- CT scan provides the best sensitivity and specificity to identify a spread whenever a malignant tumour cannot be ruled out. Good chest radiographs would still be useful if this advanced Imaging option is not available or cost is an issue.
- Advanced centres may use sentinel lymph-node mapping to identify the true first-draining node for biopsy.



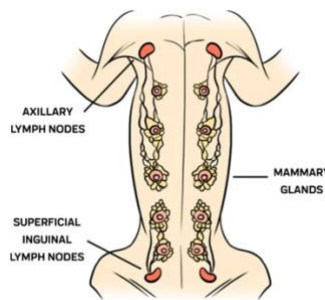
- Needle sample or biopsy to guide surgery (definitive histopathology after removal confirms type/grade/margins).
- Bloodwork and general anaesthesia planning.
- Discuss spay status: in dogs, ovariectomy at the time of tumour surgery may be considered case-by-case; in cats, prior early spay is the key risk reducer. (Early spay prevents; removing ovaries after tumors arise does not “cure” existing cancer.)

3) Surgery—the cornerstone of treatment

A) Dogs: match the “surgical dose” to how the breast drains

Depending on **tumour size, location, and number of nodules**, surgeons choose one of the following to achieve complete removal with clean margins:

- Lumpectomy / nodulectomy (small, superficial, mobile mass)
- Simple (single-gland) mastectomy
- Regional mastectomy (glands that share lymph drainage removed together)
- Unilateral chain mastectomy (entire one-side chain)



Choice is individualized to maximize local control and minimize morbidity.

Evidence note (dogs): Some cohorts show more extensive surgery reduces local recurrence for certain presentations, but results are mixed; your surgeon will tailor extent to your dog’s tumour biology and imaging.

Quality of the excision and recurrence rate (how likely the lesion is to grow back) can be influenced by many different factors: experience of the surgeon, local invasiveness of the lesion (how the lesion spreads into the wall/vessels), or the strict obedience to the state-of-the-art standard of care for oncological surgery (changing surgical kits, avoiding any direct transfer of tumour cells).

B) Cats: be aggressive early

Because **feline tumours tend to spread within the chain, the standard is radical mastectomy** (complete removal of the affected chain with wide margins), **often staged to the other side** if both are involved. **Earlier surgery and smaller tumours** (e.g., <2 cm) are linked to much **longer survival** (often >3 years) compared with larger/advanced tumours.

Lymph nodes

Suspicious nodes are sampled or removed. Sentinel node techniques are increasingly used to improve staging accuracy in veterinary oncology.



4) What about chemo, radiation, or meds?

Chemotherapy is a fast-progressing domain and what is the standard now might already have changed by next month. Seek advice of an oncologist if the excised lesion comes back as a cancer.

Dogs: The main life-saving step is **complete surgical excision**. Adjuvant therapy is case-dependent (e.g., high-grade carcinoma, nodal spread, inflammatory carcinoma). Your oncologist may discuss chemotherapy options, but evidence is variable and tailored to pathology. Recent reviews summarize where it may (or may not) help.

Cats: Studies to date have not shown a clear survival benefit from standard doxorubicin-based chemotherapy after surgery for most cats, though it may be considered for high-risk cases; ongoing research continues.

5) Recovery & home care

Most pets go home the same day or next. Expect a long incision (especially with chain mastectomy), an E-collar, pain control, and restricted activity for ~2 weeks. Whenever some tension is present on the wound edges after surgery, excessive activity could increase the risk of breakdown or seroma (fluid build-up).

Cold then warm compresses as instructed; monitor for swelling, redness, discharge, or licking.

Pathology report (usually in 5–10 days) guides whether more treatment or imaging is recommended.

Follow-ups every 3–6 months initially (exam, node check, chest imaging as indicated by your veterinarian).

6) Complications & realistic rates

Complications depend on **extent of surgery, body size/weight, and aftercare**. Across modern series:

Overall mastectomy complication rate (dogs, all types combined): ~17%;

Heavier dogs, bilateral surgeries, and postoperative antibiotics (marker of more involved cases) were associated with higher odds. Most complications were manageable; about one-third of those with a complication were hospitalized.

Surgical-site infection (dogs): ~9% (range ~8–9% in recent cohorts). Seromas and wound tension are other common, usually minor issues.

Cats: Similar types of complications (seroma, wound dehiscence, infection); risk rises with very long incisions and bilateral/staged procedures. Your surgeon can quote their service's numbers.

7) Prognosis: what numbers mean for your pet

Dogs

Key drivers are **tumour size, histologic type/grade, margins, and lymph-node status**.

- Small, low-grade tumours with clean margins can be cured by surgery.
- Larger/high-grade tumours and nodal spread worsen outlook; modern reviews synthesize these factors across large datasets.



Cats

Tumour size is critical.

- **Cats with tumours <2 cm that undergo radical mastectomy** can have excellent long-term survival (often >3 years)
- **Advanced (stage III–IV) cases**—even with aggressive surgery—often have median survival <1 year.

Early detection and fast, wide surgery offer the best chance.

8) Practical tips for owners

- Don't watch and wait on new mammary lumps—earlier surgery = smaller tumour = better outcome (especially in cats).
- Ask about staging (nodes, chest imaging) before surgery, so the surgical plan is appropriate.
- Keep the E-collar on and follow activity restrictions to avoid wound issues.
- Maintain lean body weight and follow your vet's exam/imaging schedule—if a new lump appears, address it promptly.

9) Good questions to ask your vet/surgeon

- What surgical extent do you recommend (lumpectomy vs regional vs chain) and why for my pet?
- Will you sample or remove lymph nodes (and do you use sentinel mapping)?
- What are your clinic's wound/SSI rates and pain-control protocol?
- Given the pathology, is there any adjuvant therapy worth considering?
- For my other pets, what's the recommendation on prophylactic spay timing to reduce mammary-cancer risk?

Selected references (owner-friendly + key studies)

- ACVS client guide: Mammary tumours (clear overview of surgery choices and differences between dogs and cats).
- VCA client education (dogs): early spay risk reduction 0.5% / 8% / 26% benchmark figures.
- Veterinary Evidence (2025): feline risk reduction with early spay (91% <6 months; 86% <1 year).
- Comprehensive review (2023): current state of canine mammary cancer—biology, staging, and treatment.
- Feline prognosis and size effect: classic and contemporary analyses showing smaller tumors = better outcomes.
- Surgical options summary (dogs): lumpectomy → regional → unilateral/bilateral chain.
- Post-op complications (dogs): ~17% any complication across 154 mastectomies; SSI ≈9% in recent series.
- Feline adjuvant chemo: studies show no clear survival benefit to doxorubicin-based protocols overall (still considered case-by-case).

Bottom line

In dogs, many mammary tumors are curable with surgery, especially when small and fully removed; half are malignant, so don't delay evaluation. Early-life spay sharply reduces risk.

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In cats, assume malignancy until proven otherwise; radical chain mastectomy as early as possible offers the best chance, and tumor size <2 cm is a strong good sign.

Typical surgical risks are manageable (overall complications ~17%; infections ~9% in dogs), and most pets recover well with good pain control and home care.