ONCOLOGY IN EVERYDAY PRACTICE: YES, YOU CAN!

Practical Oncology for the General Practitioner

Sue Ettinger, DVM, DACVIM (Oncology)
Dr Sue Cancer Vet PLLC, Sleepy Hollow, NY, USA

This handout covers three practical, general-practice-friendly oncology options: STELFONTA® for canine mast cell tumors, oral and alternative options for canine lymphoma, and diagnosis/treatment of feline GI lymphoma. Barriers to address when adding oncology to your practice include client budget, client comfort with you, proximity/availability of a specialist, comfort with oral vs. IV chemotherapy, and your own confidence.

STELFONTA® (TIGILANOL TIGLATE) FOR CANINE MAST CELL TUMORS

What It Is:

STELFONTA® (tigilanol tiglate injection) is an FDA-approved (2020) intratumoral injection for nonmetastatic cutaneous mast cell tumors (MCT) anywhere on the body and nonmetastatic subcutaneous MCT located at or distal to the elbow or hock. It is a novel diterpene ester isolated from the seed of the blushwood plant (Fontainea picrosperma). A single injection causes direct tumor cell oncolysis, PKC-βII-driven vascular disruption, and an acute local inflammatory response that restricts blood/oxygen supply to the tumor and recruits immune cells against it. The cumulative effect is tumor necrosis and slough within 3–14 days, with wound healing by second intention over 4–6 weeks.

Efficacy and Safety:

In a randomized, multi-center U.S. trial (De Ridder, JVIM 2020), a single injection produced a 75% complete response (CR); CR increased to 88% after one or two treatments, and 89% of dogs were disease-free at 12 months. 94% of adverse events were Grade 1–2, and only 5 of 117 dogs receiving a single treatment needed active wound management. Complete healing occurred in 57% of patients by Day 28, 78% by Day 42, and 96% by Day 84.

Myths:

STELFONTA® is not limited to tumors below the elbow or hock — cutaneous MCT anywhere on the body qualifies; only subcutaneous MCT is restricted to at/distal to the elbow or hock. It also is not reserved for inoperable tumors; it is appropriate for straightforward and surgically challenging cases alike. STELFONTA® should never be injected into subcutaneous MCT above the elbow or hock (body, head, or neck) — this risks necrotic debris accumulation and systemic adverse reactions, including death, from mast cell degranulation. Indication cap: tumor volume ≤ 10 cm^3 (maximum dose 0.25 mg/kg if the dog is <20 kg).

Case Selection:

Weigh tumor factors (location, skin vs. subcutaneous, size, ulceration, grade, stage), patient factors (anesthesia risk, breed, comorbidities, temperament), and owner factors (comfort with an open wound, ability to medicate, budget). The best starter cases are small (roughly 1–2 cm^3), cytologically low-grade, non-ulcerated tumors with negative regional lymph node staging. Avoid large (>10 cm^3) or node-positive tumors.

Essential Medications and Injection:

Three concomitant medications are required to minimize the risk of a severe reaction from mast cell degranulation: prednisone 0.5 mg/kg PO q12h × 7 days then q24h × 3 days (start 2 days before treatment); diphenhydramine 2 mg/kg PO q12h × 8 days; and famotidine 0.5 mg/kg PO q12h × 8 days (both starting the morning of treatment or 2 days before). Start gabapentin for pain control the morning of treatment and avoid NSAIDs while the dog is on steroids. Dosing: tumor volume (cm^3) = length × width × height × ½; dose volume (mL) = tumor volume × ½ mL (minimum 0.1 mL, maximum 0.25 mL/kg, capped at 5 mL). Inject through a single-entry point with a 23-gauge needle on a luer-lock syringe, fanning the dose throughout the mass, and wear full PPE. Swelling, bruising, and odor over the first several days are expected and should not be bandaged. Most wounds heal without antibiotics or an E-collar; about 12% of dogs need a second treatment. Recheck at Day 7, then Day 28–42, and wait until Day 28 to aspirate any residual mass before considering retreatment.

Bottom Line:
STELFONTA® offers 75% single-injection efficacy with a good cosmetic outcome and a hands-off healing process most clients prefer once educated on what to expect. Start with small, straightforward cases to build confidence, then step up. Success requires owner education, the three essential medications, and proactive pain management. More information and CE: stelfonta.com and vet-us.virbac.com/stelfonta.

CANINE LYMPHOMA: ORAL OPTIONS YOU CAN USE
Chemotherapy is the mainstay of treatment for canine lymphoma (untreated median survival time [MST] is about 1 month), but 60–80% of owners decline it - most often over concerns about side effects, cost, logistics, or access to an oncologist. The good news: lymphoma remains treatable without IV multi-agent chemotherapy.

Prognosis:
Negative prognostic factors include T-cell immunophenotype, WHO substage b (clinically ill), high-grade histology, hypercalcemia, and mediastinal/GI involvement. Achieving complete remission (CR) and using a multi-agent (CHOP) protocol are the strongest positive factors. Prednisone is a "one-way street" once lymphoma is suspected: collect staging bloodwork and imaging before starting any steroid, since pre-chemotherapy steroid use increases multidrug resistance and shortens remission and survival if chemotherapy is pursued afterward. If the dog is inappetent, use an appetite stimulant instead of prednisone pending diagnosis and staging.

CHOP (Gold Standard):
>80–95% complete remission, median remission duration approximately 9 months (range 6–11 months), MST 13–14 months with rescue protocols, and roughly 25% of dogs survive more than 2 years.

Alternative Protocols:

Protocol	Response	MST or PFI
Doxorubicin single agent	60–80%	7–9 months
COP	70–75%	7 months
Lomustine + prednisone (oral)	35%	~4 months (110 days)
Laverdia-CA1® (oral)	ORR ~35%	Benefit 71 days; some >9 months
Prednisone alone	~50% ORR	~2–3 months (MST 50 days)

Lomustine (CCNU):
Dosed at 60–65 mg/m² PO q3 weeks; crosses the blood-brain barrier; useful for relapse or T-cell disease. My approach: taper prednisone over 3-4 weeks, add SAMe supplementation (Denamarin®), induce with Elspar, and start lomustine one week later. Key toxicities are myelosuppression (neutropenia, delayed thrombocytopenia) and hepatotoxicity. Check CBC and liver panel (ALT <250 to treat) before every dose, with a nadir CBC on Day 7.

Elspar (L-Asparaginase):
Dosed at 10,000 IU/m² IM; depletes asparagine and is not myelosuppressive, making it safe when a patient is neutropenic. Used for induction or relapse. Premedicate with diphenhydramine 30 mg/m² IM 20 minutes prior and monitor for an allergic reaction for 30 minutes afterward.

Laverdia-CA1® (verdinexor):
An oral selective inhibitor of nuclear export (SINE); conditionally approved in 2021 with full FDA approval expected in 2026; not a multidrug-resistance (MDR) substrate. Start at 1.25 mg/kg PO twice weekly (>72 hours apart) with food; recheck in 2 weeks (CBC/chemistry, weight, quality of life) and titrate between 1 and 1.5 mg/kg based on tolerance. In the pivotal study, verdinexor significantly prolonged time to progression versus placebo (37 vs. 23 days, p=0.011), and most side effects (anorexia, GI upset, lethargy) were Grade 1–2. Cost is roughly $100–250/month — a good option when CHOP is declined, at relapse, or in place of starting prednisone. The goal is stable disease and good quality of life, not necessarily CR.

Neutropenia: When to Intervene vs. Monitor:
Febrile neutropenia is an oncologic emergency; a "dumpy" dog may be septic even without a fever, and a normal temperature, urinalysis, or radiographs do not rule out infection.

Neutrophil Count (/µL)	Fever/Systemic Signs?	Plan
1000–2000	No	Monitor, no antibiotics. Delay chemo if due; consider dose reduction next cycle.
500–1000	No	Start/continue oral antibiotics. Delay chemo if due; reduce dose of offending drug next cycle.
<500	No	Broad-spectrum oral antibiotics. Delay chemo if due; reduce dose next cycle.
<1500	YES	Oncologic emergency: hospitalize, IV fluids + IV antibiotics. Delay chemo if due; reduce dose next cycle.

FELINE GASTROINTESTINAL LYMPHOMA: ORAL OPTIONS YOU CAN USE
Lymphoma is the most common feline cancer (approximately 30%) and most often affects the GI tract. Outcomes are less predictable than in dogs, but cats tolerate chemotherapy very well — febrile neutropenia is rare — and most owners are glad they treated.

High-Grade vs. Low-Grade:
High-grade/large-cell disease (EATL I) has an acute onset (days to weeks), often with a palpable abdominal mass, and is usually diagnosed by ultrasound plus cytology; surgery is less commonly needed. Low-grade/small-cell disease (EATL II) is chronic and IBD-like (median 6-month history), with subtle or absent imaging findings; cytology is often insufficient, so histopathology (± PARR) is typically required.

Diagnostics and Prognostic Factors:
Minimum database is CBC, chemistry, and urinalysis. Test FeLV/FIV status (FeLV-positive is a negative prognostic factor) and check cobalamin/folate, supplementing as needed. Consider thoracic radiographs, lymph node histology, and bone marrow evaluation. Phenotyping (PARR) is recommended only if histopathology is inconclusive — unlike in dogs, phenotype is not prognostic in cats. Helpful prognostic factors include anatomic location, achieving CR, FeLV status, substage, use of a CHOP protocol, and body condition score (BCS <5/9: MST 3.3 months vs. ≥5/9: MST 16.7 months); WHO stage, immunophenotype, age, weight, gender, and FIV status are not prognostic.

High-Grade Treatment:
CHOP (e.g., UW 25-week protocol; doxorubicin dosed lower at 1 mg/kg IV in cats, with renal monitoring) gives a 50–80% response rate, ~4-month median remission, and MST of 5–9 months (approximately 1 year if CR is achieved). COP is a reasonable alternative (50–70% CR, similar results to CHOP in one European study, but a longer 1-year protocol). Single-agent oral lomustine (50–60 mg/m² q4–6 weeks) is a practical Plan B when CHOP isn't realistic — in Rau et al. (n=32), it produced a 50% response rate (22% CR), median duration of response 10 months, and MST 3.6 months, and was well tolerated. Steroids alone (prednisolone) give about a 50% response lasting 2–3 months; untreated MST is about 1 month.

Low-Grade Treatment:
Oral chlorambucil (Leukeran®) plus prednisolone is standard. Chronic dosing: cats >4 kg start at 2 mg PO q2 days then maintenance q3 days; cats <4 kg start at 2 mg PO q3 days then maintenance q4 days (pulse dosing is an alternative: 20 mg/m² q2 weeks or 15 mg/m² × 4 days q3 weeks). Prednisolone is dosed at 1–2 mg/kg/day, tapering to 0.5–1 mg/kg/day. Monitor CBC and ALT every 2 weeks initially, then at least every 6 weeks once

stable, watching for gradual myelosuppression and hepatotoxicity (~11% of cats). 70–85% of cats respond, with MST often exceeding 1–2 years.

Supportive Care:
Owners are more distressed by inappetence and weight loss than by classic chemotherapy side effects, and inappetence is the leading reason clients stop treatment - trend body weight at every visit and intervene early. Send patients home after the first treatment with an antiemetic (Cerenia®), an appetite stimulant (Mirataz® or Elura®), metronidazole, a probiotic, and a written care sheet.

KEY TAKEAWAYS
You can treat these cancers in general practice. STELFONTA® offers a practical, single-injection alternative to surgery for canine MCT. For dogs with lymphoma declining IV chemotherapy, consider Laverdia or Lomustine; for cats, consider Lomustine for high-grade disease or Leukeran® plus a steroid for low-grade disease. Individualize care around efficacy, monitoring, safety, and client goals, and refer to the updated AAHA Oncology Guidelines published in early 2026.

REFERENCES

1. De Ridder TR, Campbell JE, Burke-Schwarz C, et al. Randomized controlled clinical study evaluating the efficacy and safety of intratumoral treatment of canine mast cell tumors with tigilanol tiglate (EBC-46). J Vet Intern Med. 2020;1–15.
2. Camus MS, et al. Cytologic criteria for mast cell tumor grading in dogs. Vet Pathol. 2016;53(6):1117–1123.
3. STELFONTA® (tigilanol tiglate injection) prescribing information. Virbac.
4. Rau SE, et al. Efficacy of lomustine for treatment of lymphoma in cats. J Vet Intern Med. 2010.
5. Vail DM, et al. Hematopoietic Tumors, Canine Lymphoma & Lymphoid Leukemia. In: Small Animal Clinical Oncology. 6th ed. St. Louis, MO: Elsevier Saunders; 2020:688–715.
6. Vail DM, Pinkerton M. Feline Lymphoma and Leukemia. In: Small Animal Clinical Oncology. 6th ed. St. Louis, MO: Elsevier Saunders; 2020:715–731.
7. Weishaar KM, et al. Multicenter, randomized, double-blinded, placebo-controlled study of rabacfosadine in dogs with lymphoma. J Vet Intern Med. 2022;36(1):215–226.
8. Norsworthy GD, et al. J Am Vet Med Assoc. 2013;243(10):1455–1461.