

WSAVA ONCOLOGY COMMITTEE CHEMOTHERAPY CHECKLIST

Before initiating chemotherapy or with any change of regimen

PATIENT

Diagnosis _____

Definitive ☐ Presumptive ☐

Staging completed

yes ☐ no ☐

Medical history reviewed

yes ☐ no ☐

Comorbidities impacting treatment

yes ☐ no ☐

Breed at risk (MDR mutation)

yes ☐ no ☐

MDR testing completed

yes ☐ no ☐ pending ☐

REGIMEN

Reference _____

Testing for adverse event monitoring completed

yes ☐ no ☐ pending ☐

Owner informed of:

Expected prognosis

yes ☐ no ☐

Expected adverse events

yes ☐ no ☐

Protocol duration

yes ☐ no ☐

Sedation required

yes ☐ no ☐

Cost

yes ☐ no ☐

Before every chemotherapy administration

		CLINICIAN 1	CLINICIAN 2
Weight (kg)			
Body surface area (sqm)			
>1.5K/ μ L neutrophils			
>50K platelets/ μ L			
Chemotherapy drug			
Dosage (mg/kg) or (mg/m ²)			
Dose (mg) to be administered			
Volume (ml) to be administered			
Diluent and volume (ml)			
Route of administration: PO, IV, SQ, Other			
Duration of infusion			
Vein used for IV injection			
Other medications to be administered			



WSAVA ONCOLOGY COMMITTEE CHEMOTHERAPY DRUG OVERVIEW

ALKYLATING AGENTS

1. **Cyclophosphamide** – Cross-links DNA strands, preventing replication; widely used in lymphoma protocols (e.g., CHOP, COP) and as a metronomic agent.
2. **Chlorambucil** – Slower-acting alkylator; DNA cross-linker used for low-grade lymphoma and as maintenance therapy, often paired with prednisone.
3. **Lomustine** (CCNU) – Lipophilic nitrosourea that crosses the blood-brain barrier; alkylates DNA. Mainstay for mast cell tumors, brain tumors, and histiocytic sarcoma.
4. **Melphalan** – Alkylating agent primarily used for multiple myeloma.

PLATINUM COMPOUNDS

5. **Carboplatin** – Forms platinum-DNA adducts causing cross-links; used for osteosarcoma, carcinomas, and mesothelioma.

ANTITUMOR ANTIBIOTICS

6. **Doxorubicin** – Intercalates DNA and inhibits topoisomerase II, generating free radicals; core drug in lymphoma (CHOP), carcinoma and sarcoma protocols; cardiotoxic with cumulative dosing in dogs.
7. **Mitoxantrone** – Topoisomerase II inhibitor, DNA intercalator; alternative to doxorubicin, less cardiotoxic, used in carcinomas and lymphoma.

ANTIMETABOLITES

8. **Cytosine arabinoside** (Cytarabine) – Incorporates into DNA to inhibit synthesis; used for CNS lymphoma and myeloproliferative disease.
9. **Gemcitabine** – Nucleoside analog that inhibits DNA synthesis; used as a radiosensitizer and for carcinomas.

VINCA ALKALOIDS

10. **Vincristine** – Binds tubulin, disrupts mitotic spindle formation; key CHOP-protocol drug, also used for canine transmissible venereal tumor and ITP.
11. **Vinblastine** – Similar tubulin-binding mechanism; primary agent for mast cell tumors.

TYROSINE KINASE INHIBITORS

12. **Toceranib phosphate** (Palladia) – Inhibits multiple receptor tyrosine kinases (VEGFR, PDGFR, KIT); approved for canine mast cell tumors, used off-label for various carcinomas.
13. **Masitinib** (Masivet) – KIT tyrosine kinase inhibitor; approved for canine mast cell tumors in Europe.
14. **Imatinib** (Gleevec) – KIT and PDGFR tyrosine kinase inhibitor approved for use in people but also used in veterinary patients.

OTHER/MISCELLANEOUS

15. **L-Asparaginase** – Depletes circulating asparagine, starving lymphoblasts that can't synthesize it themselves; used as rescue or induction agent in lymphoma.
16. **Prednisone/Prednisolone** – Corticosteroid with lympholytic activity; nearly universal component of lymphoma and mast cell protocols.
17. **NSAIDs** (often paired with chemo) – COX inhibitors with antitumor/antiangiogenic activity.



Steagall, P.V., Pelligand, L., Page, S., Granick, J.L., Allerton, F., Bęczkowski, P.M., Weese, J.S., Hrček, A.K., Queiroga, F. and Guardabassi, L. (2023), The 2023 World Small Animal Veterinary Association (WSAVA). J Small Anim Pract, 64: 731-748. <https://doi.org/10.1111/jsap.13673>

