Regimen Monograph

A - Regimen Name

CHOP Regimen

Cyclophosphamide-Hydroxyldaunorubicin (DOXOrubicin)-ONCOVIN ® (VinCRIStine)-Prednisone

Disease Site	Hematologic - Lymphoma - Non-Hodgkin's Low Grade
Intent	Palliative
Regimen Category	**Evidence-Informed :** Regimen is considered appropriate as part of the standard care of patients; meaningfully improves outcomes (survival, quality of life), tolerability or costs compared to alternatives (recommended by the Disease Site Team and national consensus body e.g. pan-Canadian Oncology Drug Review, pCODR). Recommendation is based on an appropriately conducted phase III clinical trial relevant to the Canadian context OR (where phase III trials are not feasible) an appropriately sized phase II trial. Regimens where one or more drugs are not approved by Health Canada for any indication will be identified under Rationale and Use.
Rationale and Uses	First-line/salvage therapy for indolent lymphoma
Supplementary Public Funding	**prednisone** ODB - General Benefit (prednisone)

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B - Drug Regimen

cyclophosphamide	750 mg /m²	IV	Day 1
DOXOrubicin	50 mg /m²	IV	Day 1
vinCRIStine	1.4 mg /m²	IV (maximum 2 mg)	Day 1
prednisone	100 mg	PO daily	Days 1 to 5

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C - Cycle Frequency

REPEAT EVERY 21 DAYS

For a usual total of 6 to 8 cycles

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D - Premedication and Supportive Measures

Antiemetic Regimen: Moderate

Febrile Neutropenia Risk: Moderate

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E - Dose Modifications

Doses should be modified according to the protocol by which the patient is being treated. The following recommendations are in use at some centres.

Dosage with toxicity

Hematologic and Non-hematologic Toxicities: See general recommendations.

Toxicity	Doxorubicin[1] (% previous dose)	Vincristine[1] (% previous dose)	Cyclophosphamide[1] (% previous dose)
Grade 4 hematological ≥ 7 d, febrile neutropenia, bleeding	75% or G-CSF	100%	75% or G-CSF for low ANC
Grade 3 non-hematological toxicity	75%	100%	75%
Grade 4 organ toxicity	Discontinue	Discontinue	Discontinue
Neurotoxicity	100%	***Mild***: 67%; ***Moderate***: Hold until recovery, then ↓ 50%; ***Severe***: Discontinue	100%

[1]Prior to retreatment, major organ toxicity should have recovered to ≤ grade 2 and ANC to ≥ 1.5 x 10^9/L and platelets ≥ 100 x 10^9/L.

Hepatic Impairment

Also consider dose modification for doxorubicin and vincristine for severe increase in transaminases.

Bilirubin	Doxorubicin (% previous dose)	Vincristine (% previous dose)	Cyclophosphamide (% previous dose)
1 – 2 X ULN	50%	50%	100%
2 – 4 x ULN	25%	25%	Caution
> 4 ULN	OMIT	OMIT	Caution

Renal Impairment

Creatinine Clearance (mL/min)	Doxorubicin (% previous dose)	Vincristine (% previous dose)	Cyclophosphamide (% previous dose)
30-50	No dose adjustment required.	No dose adjustment required.	100%
10-30			50-75%
< 10			50% or Omit

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F - Adverse Effects

Refer to prednisone, DOXOrubicin, vinCRIStine, cyclophosphamide drug monograph(s) for additional details of adverse effects

Most Common Side Effects	Less Common Side Effects, but may be Severe or Life-Threatening
• Myelosuppression • Nausea and vomiting • Neurotoxicity and constipation • Stomatitis • Cardiotoxicity (may be severe) • Hyperglycemia • Gastric irritation • Alopecia • Amenorrhea/infertility • Abnormal LFTs • Diarrhea • Fatigue • Headache • Cystitis (may be severe)	• SIADH • Tumour lysis syndrome • Pneumonitis, Pulmonary fibrosis • DIC, hemolytic-uremic syndrome, renal failure • Secondary leukemia • Arterial/venous thromboembolism • Bowel obstruction/perforation

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G - Interactions

Refer to cyclophosphamide, DOXOrubicin, vinCRIStine, prednisone drug monograph(s) for additional details

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H - Drug Administration and Special Precautions

Refer to cyclophosphamide, DOXOrubicin, vinCRIStine, prednisone drug monograph(s) for additional details

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I - Recommended Clinical Monitoring

Recommended Clinical Monitoring

- Clinical toxicity assessment (including gastrointestinal, stomatitis, local toxicity, cardiotoxicity, neurotoxicity, constipation and cystitis).
- CBC before each cycle. Interim counts should be done in first cycle and repeated if dose modification necessary.
- Baseline and regular cardiac examination for patients with cardiac risk factors (including prior therapy with Epirubicin, Mitoxantrone, or other cardiotoxic drug) and cumulative doxorubicin doses > 450mg/m^2.
- Baseline and regular liver & renal function tests and urinalysis
- Grade toxicity using the current NCI-CTCAE (Common Terminology Criteria for Adverse Events) version

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J - Administrative Information

Approximate Patient Visit	1.5 to 2 hours
Pharmacy Workload (average time per visit)	36.054 minutes
Nursing Workload (average time per visit)	51.667 minutes

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K - References

Fisher RI, Gaynor ER, Dahlberg S et al. A phase III comparison of CHOP vs. m-BACOD vs ProMACE-CytaBOM vs. MACOP-B in patients with intermediate- or high-grade non-Hodgkin's lymphoma: results of SWOG-8516 (Intergroup 0067), the National High-Priority Lymphoma Study. Ann Oncol 1994;5 Suppl 2:91-5

Gordon LI, Harrington D, Andersen J, et al. Comparison of a second-generation combination chemotherapeutic regimen (m-BACOD) with a standard regimen (CHOP) for advanced diffuse non-Hodgkin's lymphoma. NEJM 1992 Nov 5; 327 (19): 1342-9.

July 2019 Updated hyperlink to vincristine drug monograph

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M - Disclaimer

Regimen Abstracts

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Information in regimen abstracts is accurate to the extent of the ST-QBP regimen master listings, and has not undergone the full review process of a regimen monograph. Full regimen monographs will be published for each ST-QBP regimen as they are developed.

Regimen Monographs

Refer to the New Drug Funding Program or Ontario Public Drug Programs websites for the most up-to-date public funding information.

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