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A	REGIMEN NAME	CHOP Chemotherapy
Cancer	Non-Hodgkin's Lymphoma (Intermediate & High Grade)	Curative Intent
Regimen Category	CORE: Standard therapy endorsed by the Disease Site Group and a regimen widely used by most Integrated Cancer Programs in this disease site	
Rationale and Uses	First-line therapy for aggressive histology lymphoma	

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B	DRUG REGIMEN		
PREDNISONE (Outpatient prescription in multiples of 50mg tablets)	100 mg	PO daily	Days 1 to 5
<u>DOXORUBICIN</u> (Round to nearest 1mg)	50 mg/m ²	IV	Day 1
<u>VINCRIStINE</u> (Round to nearest 0.1mg)	1.4 mg/m ² (Max 2mg)	IV	Day 1
<u>CYCLOPHOSPHAMIDE</u> (Round to nearest 10mg)	750 mg/m ²	IV	Day 1

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C	CYCLE FREQUENCY
REPEAT EVERY 21 DAYS	<i>For a Usual Total of 6 to 8 Cycles</i>

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D PREMEDICATION AND SUPPORTIVE MEASURES

ANTIEMETIC REGIMEN:
[HESKETH LEVEL 4](#)

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E DOSE MODIFICATION

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

Hematologic and Non-hematologic Toxicities

See [Appendix 6](#) for general recommendations

Toxicity	<u>Doxorubicin</u> ¹ (% previous dose)	<u>Vincristine</u> ¹ (% previous dose)	<u>Cyclophosphamide</u> ¹ (% previous dose)
Grade 4 hematological ≥ 7d, febrile neutropenia, bleeding	75% or G-CSF	100%	75% or G-CSF
Grade 3 non-hematological toxicity	75%	100%	75%
Grade 4 organ toxicity	Discontinue	Discontinue	Discontinue
Neurotoxicity	100%	Mild: 67% Mod: hold until recovery ↓ 50% Severe: discontinue	100%

¹Prior to retreatment, major organ toxicity should have recovered to ≤ grade 2 and ANC to ≥ 1.5 and platelets ≥ 100.

Renal Impairment

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

Hepatic Impairment

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

<u>Bilirubin</u>	<u>Doxorubicin</u> (% previous dose)	<u>Vincristine</u> (% previous dose)	<u>Cyclophosphamide</u> (% previous dose)
1 – 2 X ULN	50%	50%	No dose adjustment required.
2 – 4 x ULN	25%	25%	
> 4 ULN	OMIT	OMIT	

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F**ADVERSE EFFECTS**

Refer to the Cyclophosphamide, Doxorubicin, Vincristine and Prednisone monographs for full details of the adverse effects.

Most Frequently Occurring Adverse Effects

- 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)

Less Common but may be severe or life-threatening

- 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 the Cyclophosphamide, Doxorubicin, Vincristine and Prednisone monographs for full details.

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K**KEY REFERENCE(S)**

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

CCO Practice Guideline: The Use of Chemotherapy and Growth Factors in Older Patients with Newly Diagnosed, Advanced-Stage, Aggressive Histology Non-Hodgkin's Lymphoma

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L**OTHER NOTES**

In a large comparative trial (vs. ProMACE-CytaBOM vs. MACOP-B vs. M-BACOD), CHOP was not significantly different for overall survival rates, but had a lower toxic fatality rate than the other regimens. CHOP was concluded to be the best available treatment for advanced intermediate and high-grade non-Hodgkin's lymphoma.

This regimen should only be given by hematologists trained in the care of high grade lymphoma patients, and practicing in institutions with adequate acute care designed to support high grade lymphoma patients.

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