**Regimen Monograph**



## A - Regimen Name

# DOXO Regimen

**DOXOrubicin**

**Disease Site** Unknown Primary

**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.

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## B - Drug Regimen

| | | | |
|---|---|---|---|
| **DOXOrubicin** | 50-60 mg /m² | IV | Day 1 |

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## C - Cycle Frequency

**REPEAT EVERY 21 DAYS**

Until disease progression or unacceptable toxicity, or cardiotoxicity risk limits use

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## D - Premedication and Supportive Measures

**Antiemetic Regimen:** High (≥ 60mg/m2)
Moderate (< 60mg/m2)

**Other Supportive Care:**

Also refer to CCO Antiemetic Recommendations.

**Screen for hepatitis B virus in all cancer patients starting systemic treatment.** Refer to the hepatitis B virus screening and management guideline.

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## E - Dose Modifications

Doses should be modified according to the protocol by which the patient is being treated.

**Dosage with toxicity**

Suggested dose levels: 60, 50, 40 mg/m$^2$.

| Worst Toxicity / Counts in Prior Cycle | Doxorubicin Dose for Next Cycle |
|---|---|
| Febrile Neutropenia / Thrombocytopenic bleeding / ANC grade 4 ≥ 7 d | ↓ 1 dose level* |
| Cardiotoxicity** | Discontinue |
| Grade 3 related organ | ↓ 1 dose level* |
| Grade 4 related organ | Discontinue |

*Do not start new cycle until organ toxicity ≤ grade 2, platelets ≥ 100 x $10^9$/L and ANC ≥ 1.5 x $10^9$/L
**including any signs and symptoms of heart failure, greater than 10% decline in LVEF to below the lower limit of normal, a greater than 20% decline in LVEF from any level, or LVEF ≤ 45%

**Hepatic Impairment**

| Bilirubin (µmol/L) | | AST/ALT | % Usual Dose |
|---|---|---|---|
| 1-2 x ULN | | | 50% |
| 2-4 x ULN | and/or | 5-10 x ULN | 25% |
| > 4 x ULN | and/or | > 10 x ULN | OMIT |

**Renal Impairment**

No dosage adjustment required.

**Dosage in the Elderly**

Use with caution.

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## F - Adverse Effects

Refer to DOXOrubicin drug monograph(s) for additional details of adverse effects

| Very common (≥ 50%) | Common (25-49%) | Less common (10-24%) | Uncommon (< 10%), but may be severe or life-threatening |
|---|---|---|---|
| • Alopecia<br>• Myelosuppression +/- bleeding, infection (may be severe)<br>• Nausea, vomiting (may be severe)<br>• Mucositis (may be severe) | • Anorexia | • Diarrhea<br>• Injection site reaction<br>• ECG changes | • Cardiotoxicity<br>• Arrhythmia<br>• Myocarditis/pericarditis<br>• Venous thromboembolism<br>• Rash<br>• Radiation recall reaction<br>• ↑ LFTs<br>• Hypersensitivity<br>• Tumour lysis syndrome<br>• Secondary malignancy |

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## G - Interactions

Refer to DOXOrubicin drug monograph(s) for additional details

- Avoid use of calcium channel blockers (e.g. verapamil) or bevacizumab with doxorubicin due to additive cardiotoxicity.
- Avoid anthracycline-based therapy for up to 28 weeks after stopping trastuzumab.
- Avoid use of cyclosporine with doxorubicin if possible, as it may increase doxorubicin concentrations.
- Avoid using stavudine or zidovudine with doxorubicin.
- Monitor serum digoxin levels when used with doxorubicin; levels may decrease.
- Monitor serum phenytoin levels when used with doxorubicin; levels may decrease.

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## H - Drug Administration and Special Precautions

Refer to DOXOrubicin drug monograph(s) for additional details

### Administration

- Slow push through sidearm of free flowing IV (5% Dextrose, Normal Saline). Depending on the dose volume and vein condition, administer the dose between 3 to 10 minutes to minimize thrombosis risk or extravasation.
- Do not admix with other drugs unless data are available; precipitates with fluorouracil and heparin.
- Avoid contact with alkaline solutions as this can lead to hydrolysis of doxorubicin.
- Slow down injection rate if erythematous streaking or facial flushing occurs.
- If any signs or symptoms of extravasation occur, the injection or infusion should be immediately terminated and restarted in another vein. Any known or suspected extravasation should be managed promptly as per local guidelines and should include application of ice to the affected area.
- Store vials under refrigeration (2 to 8ºC) and protect from light.

### Contraindications:

- Patients who have a hypersensitivity to this drug or any of its components, other anthracyclines

or anthracenediones (i.e. epirubicin, daunorubicin, mitoxantrone or mitomycin C)
- Persistent myelosuppression induced by chemotherapy or radiation
- Severe hepatic impairment
- Severe myocardial insufficiency, arrhythmias or history of cardiac disease or recent myocardial infarction
- Previous treatment with maximum cumulative doses of doxorubicin, other anthracyclines or anthracenediones

**Precautions:**

- Avoid the use of live vaccines; use may result in serious infections in immunocompromised patients

**Pregnancy/Lactation:**

- This regimen is not recommended for use in pregnancy. Adequate contraception should be used by patients and their partners while on treatment and after the last treatment dose. Recommended methods and duration of contraception may differ depending on the treatment. Refer to the drug monograph(s) for more information.
- Breastfeeding is not recommended during this treatment and after the last treatment dose. Refer to the drug monograph(s) for recommendations after the last treatment dose (if available).
- Fertility can be affected, by may be partially reversible.

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## I - Recommended Clinical Monitoring

Treating physicians may decide to monitor more or less frequently for individual patients but should always consider recommendations from the product monograph.

Refer to the hepatitis B virus screening and management guideline for monitoring during and after treatment.

Recommended Clinical Monitoring

- CBC; Baseline and before each cycle
- Liver function tests; Baseline and before each cycle
- Cardiac function tests (Echo, RNA and/or MUGA scans) for all patients with cardiac risk factors (including prior trastuzumab or patients at or above threshold dose levels); Baseline and as clinically indicated
- Clinical toxicity assessment for infection, bleeding, stomatitis, nausea, vomiting,

injection site reactions, cardiac or dermatologic effects; At each visit

- 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 hour |
| Pharmacy Workload (average time per visit) | 16.415 minutes |
| Nursing Workload (average time per visit) | 51.667 minutes |

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## K - References

**October 2023** Modified Pregnancy/lactation section

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## M - Disclaimer

***Regimen Abstracts***

*A Regimen Abstract is an abbreviated version of a Regimen Monograph and contains only top level information on usage, dosing, schedule, cycle length and special notes (if available). It is intended for healthcare providers and is to be used for informational purposes only. It is not intended to constitute or be a substitute for medical advice, and all uses of the Regimen Abstract are subject to clinical judgment. Such information is provided on an "as-is" basis, without any representation, warranty, or condition, whether express, or implied, statutory or otherwise, as to the information's quality, accuracy, currency, completeness, or reliability, and Cancer Care Ontario disclaims all liability for the use of this information, and for any claims, actions, demands or suits that arise from such use.*

*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.*

*The information set out in the drug monographs, regimen monographs, appendices and symptom management information (for health professionals) contained in the Drug Formulary (the "Formulary") is intended for healthcare providers and is to be used for informational purposes only. The information is not intended to cover all possible uses, directions, precautions, drug interactions or adverse effects of a particular drug, nor should it be construed to indicate that use of a particular drug is safe, appropriate or effective for a given condition. The information in the Formulary is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. All uses of the Formulary are subject to clinical judgment and actual prescribing patterns may not follow the information provided in the Formulary.*

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