

## cycloPHOSphamide 2000mg/m<sup>2</sup> For Stem Cell Mobilisation

**Note: An alternate cycloPHOSphamide dosing posology is available as described in NCCP regimen 00795**

### INDICATIONS FOR USE:

INDICATION	ICD10	Regimen Code	Reimbursement Status
Mobilisation of peripheral blood stem cells for future stem cell rescue following high dose chemotherapy		00438a	Hospital

### TREATMENT:

A single cycle is administered prior to stem cell harvest.

The recommended cut off level for stem cell harvest is Hb ≥ 8.0g/dL and Platelets >20 x 10<sup>9</sup>/L

**Note: Hydration therapy is required for the safe administration of <sup>a</sup>cycloPHOSphamide (See Table below)**

Facilities to treat anaphylaxis MUST be present when systemic anti-cancer therapy (SACT) is administered.

Day (Time)	Drug	Dose	Route and Method of Administration	Diluent & Rate
1 (T 0)	<sup>b</sup> Mesna	800mg/m <sup>2</sup>	IV bolus	Into the side arm of a fast-flowing 0.9% NaCl drip immediately prior to cycloPHOSphamide
1 (T 0)	<sup>a</sup> cycloPHOSphamide	2000mg/m <sup>2</sup>	IV infusion	1000ml 0.9% NaCl over 2hours
1 (T +3 hours)	Mesna	800mg/m <sup>2</sup>	<sup>b</sup> IV Bolus	Into the side arm of a fast-flowing 0.9% NaCl drip 3 hours post start of cycloPHOSphamide
1 (T +6 hours)	Mesna	800mg/m <sup>2</sup>	<sup>b</sup> IV Bolus	Into the side arm of a fast-flowing 0.9% NaCl drip 6 hours post start of cycloPHOSphamide
2 <sup>c</sup>	G-CSF	10mcg/kg (round to nearest full syringe)	S/C	Continue daily until stem cell harvesting has been completed.

**<sup>a</sup>cycloPHOSphosphamide Hydration: (Refer to local policy or see suggested hydration below).**

Pre-Hydration :Administer 1000 mL sodium chloride 0.9% over 2-3 hours.

Post-Hydration:Administer 1000 mL sodium chloride 0.9% over 2-3 hours.

<sup>b</sup>Alternative Mesna regimens may be used at the discretion of the prescribing consultant.

<sup>c</sup>Alternative G-CSF starting day may be used at the discretion of the prescribing consultant.

Maintain strict fluid balance during therapy, by (1) monitoring fluid balance and (2) daily weights. If fluid balance becomes positive by >1000mls or weight increases by >1 Kg, the patient should be reviewed and consideration given to diuresing with furosemide.

Consider plerixafor in poorly mobilized patients at the discretion of prescribing consultant.

NCCP Regimen: cycloPHOSphamide 2g/m <sup>2</sup> Stem Cell Mobilisation	Published: 23/11/2018 Review: 01/03/2026	Version number: 3
Tumour Group: Lymphoma and Myeloma NCCP Regimen Code: 00438	IHS Contributors: Dr Kamal Fadalla	Page 1 of 4

The information contained in this document is a statement of consensus of NCCP and ISMO or IHS professionals regarding their views of currently accepted approaches to treatment. Any clinician seeking to apply or consult these documents is expected to use independent medical judgement in the context of individual clinical circumstances to determine any patient's care or treatment. Use of these documents is the responsibly of the prescribing clinician. and is subject to HSE's terms of use available at <http://www.hse.ie/eng/Disclaimer>

*This information is valid only on the day of printing, for any updates please check [www.hse.ie/NCCPchemoregimens](http://www.hse.ie/NCCPchemoregimens)*

## ELIGIBILITY:

- Indications as above

## EXCLUSIONS:

- Hypersensitivity to cycloPHOSphamide or any of the excipients.

## PRESCRIPTIVE AUTHORITY:

The treatment plan must be initiated by a Consultant Haematologist working in the area of haematological malignancies.

## TESTS:

### Baseline tests:

- FBC, renal and liver profile
  - Uric acid, LDH
  - Creatinine Clearance
  - ECG +/- echocardiogram if clinically indicated
  - Virology screen - Hepatitis B (HBsAg, HBcoreAb), Hepatitis C, HIV
- \*See Adverse Effects/Regimen Specific Complications re Hepatitis B Reactivation

### Regular tests:

- FBC, renal and liver profile required daily

### Disease monitoring:

Disease monitoring should be in line with the patient's treatment plan and any other test/s as directed by the supervising Consultant.

## DOSE MODIFICATIONS:

- Any dose modification should be discussed with a Consultant.
- This is a single dose therapy used as priming for stem cell collection, therefore once decision has been made to proceed, there is generally no dose reduction.

### Renal and Hepatic Impairment:

**Table 1: Recommended dose modifications in patients with renal or hepatic impairment**

Drug	Renal impairment		Hepatic impairment
cycloPHOSphamide	Cr Cl (ml/min)	Dose	Severe impairment: Clinical Decision
	>20	100%	
	10-20	75%	
	<10	50%	

NCCP Regimen: cycloPHOSphamide 2g/m <sup>2</sup> Stem Cell Mobilisation	Published: 23/11/2018 Review: 01/03/2026	Version number: 3
Tumour Group: Lymphoma and Myeloma NCCP Regimen Code: 00438	IHS Contributors: Dr Kamal Fadalla	Page 2 of 4

The information contained in this document is a statement of consensus of NCCP and ISMO or IHS professionals regarding their views of currently accepted approaches to treatment. Any clinician seeking to apply or consult these documents is expected to use independent medical judgement in the context of individual clinical circumstances to determine any patient's care or treatment. Use of these documents is the responsibility of the prescribing clinician, and is subject to HSE's terms of use available at <http://www.hse.ie/eng/Disclaimer>

*This information is valid only on the day of printing, for any updates please check [www.hse.ie/NCCPchemoregimens](http://www.hse.ie/NCCPchemoregimens)*

**SUPPORTIVE CARE:**

**EMETOGENIC POTENTIAL:** High (Refer to local policy).

**PREMEDICATIONS:**

Hydration regimen for high dose cycloPHOSphamide (See suggested hydration above or refer to local policy)

**OTHER SUPPORTIVE CARE:**

- Proton pump inhibitor (Refer to local policy).
- PJP prophylaxis. **Do not give co-trimoxazole for 2 weeks prior to collection. Recommence when collection completed (Refer to local policy).**
- Tumour lysis syndrome prophylaxis (Refer to local policy).
- Anti-viral prophylaxis (Refer to local policy).
- Anti-fungal prophylaxis (Refer to local policy).
- All patients must receive irradiated cellular blood components starting 7 days prior to conditioning and until 12 months after stem cell infusion to prevent transfusion associated graft versus host disease.

**ADVERSE EFFECTS / REGIMEN SPECIFIC COMPLICATIONS**

*The adverse effects listed are not exhaustive. Please refer to the relevant Summary of Product Characteristics for full details.*

- **Neutropenia:** Fever or other evidence of infection must be assessed promptly and treated appropriately.
- **Haemorrhagic cystitis:** This may occur with this regimen. Ensure patient is well hydrated.
- **Hepatitis B Reactivation:** Patients should be tested for both HBsAg and HBcoreAb as per local policy. If either test is positive, such patients should be treated with anti-viral therapy (Refer to local infectious disease policy). These patients should be considered for assessment by hepatology.

**DRUG INTERACTIONS:**

- Current drug interaction databases should be consulted for more information. e.g interaction potential with CYP3A4 inhibitors/ inducers.

**REFERENCES:**

1. Jantunen E et al. Stem cell mobilisation Low-dose or intermediate-dose cyclophosphamide plus granulocyte colony-stimulating factor for progenitor cell mobilisation in patients with multiple myeloma. Bone Marrow Transplantation (2003) 31, 347–351
2. BCCA Protocol Summary for Single Dose Cyclophosphamide Priming Therapy for Multiple Myeloma Prior to Autologous Stem Cell Transplant (Leukemia/BMT Program of BC- BCCA) Accessed Feb 2021. Available at: [http://www.bccancer.bc.ca/chemotherapy-protocols-site/Documents/Leukemia-BMT/MYHDC\\_Protocol.pdf](http://www.bccancer.bc.ca/chemotherapy-protocols-site/Documents/Leukemia-BMT/MYHDC_Protocol.pdf)

<p>NCCP Regimen: cycloPHOSphamide 2g/m<sup>2</sup> Stem Cell Mobilisation</p>	<p>Published: 23/11/2018 Review: 01/03/2026</p>	<p>Version number: 3</p>
<p>Tumour Group: Lymphoma and Myeloma NCCP Regimen Code: 00438</p>	<p>IHS Contributors: Dr Kamal Fadalla</p>	<p>Page 3 of 4</p>

The information contained in this document is a statement of consensus of NCCP and ISMO or IHS professionals regarding their views of currently accepted approaches to treatment. Any clinician seeking to apply or consult these documents is expected to use independent medical judgement in the context of individual clinical circumstances to determine any patient's care or treatment. Use of these documents is the responsibility of the prescribing clinician, and is subject to HSE's terms of use available at <http://www.hse.ie/eng/Disclaimer>

*This information is valid only on the day of printing, for any updates please check [www.hse.ie/NCCPchemoregimens](http://www.hse.ie/NCCPchemoregimens)*

3. Estcourt LJ et al. Guidelines for the use of platelet transfusions British Journal of Haematology, 2017, 176, 365–394
4. Treleaven J et al. Guidelines on the use of irradiated blood components prepared by the British Committee for Standards in Haematology blood transfusion task force British Journal of Haematology, 2010;152, 35–51
5. Dosage Adjustment for Cytotoxics in Renal Impairment January 2009; North London Cancer Network.
6. Dosage Adjustment for Cytotoxics in Hepatic Impairment January 2009; North London Cancer Network.
7. Krens S D, Lassche, Jansman G F G A, et al. Dose recommendations for anticancer drugs in patients with renal or hepatic impairment. Lancet Onco/2019; 20:e201-08.  
[https://doi.org/10.1016/S1470-2045\(19\)30145-7](https://doi.org/10.1016/S1470-2045(19)30145-7)
8. NCCP Classification Document for Systemic Anti-Cancer Therapy (SACT) Induced Nausea and Vomiting. V5 2023. Available at:  
<https://www.hse.ie/eng/services/list/5/cancer/profinfo/chemoprotocols/nccp-classification-document-for-systemic-anti-cancer-therapy-sact-induced-nausea-and-vomiting.pdf>
9. cycloPHOSphamide (Endoxana®) Summary of Product Characteristics Accessed Feb 2021. Available at: [https://www.hpra.ie/img/uploaded/swedocuments/Licence\\_PA2299-027-002\\_21122018112109.pdf](https://www.hpra.ie/img/uploaded/swedocuments/Licence_PA2299-027-002_21122018112109.pdf)

Version	Date	Amendment	Approved By
1	23/11/2018		Dr Kamal Fadalla
2	01/03/2021	Updated recommendation for hepatic impairment and adverse effects (hepatitis B reactivation)	Dr Kamal Fadalla
3	23/10/2023	Amended treatment day for G-CSF	Dr Kamal Fadalla

Comments and feedback welcome at [oncologydrugs@cancercontrol.ie](mailto:oncologydrugs@cancercontrol.ie).

NCCP Regimen: cycloPHOSphamide 2g/m <sup>2</sup> Stem Cell Mobilisation	Published: 23/11/2018 Review: 01/03/2026	Version number: 3
Tumour Group: Lymphoma and Myeloma NCCP Regimen Code: 00438	IHS Contributors: Dr Kamal Fadalla	Page 4 of 4

The information contained in this document is a statement of consensus of NCCP and ISMO or IHS professionals regarding their views of currently accepted approaches to treatment. Any clinician seeking to apply or consult these documents is expected to use independent medical judgement in the context of individual clinical circumstances to determine any patient's care or treatment. Use of these documents is the responsibility of the prescribing clinician, and is subject to HSE's terms of use available at <http://www.hse.ie/eng/Disclaimer>

*This information is valid only on the day of printing, for any updates please check [www.hse.ie/NCCPchemoregimens](http://www.hse.ie/NCCPchemoregimens)*