

# Methotrexate INTRATHECAL

## INDICATION

**CNS prophylaxis and treatment for patients with lymphoma and/or leukaemia**  
[Licensed / NHSE funded]

**ALL INTRATHECAL DRUGS TO BE ADMINISTERED IN ACCORDANCE WITH  
NATIONAL GUIDANCE AND LOCAL POLICY**

## TREATMENT INTENT

Prophylaxis used as part of a curative treatment regimen.  
Can be used palliatively.

## PRE-ASSESSMENT

- Blood tests - FBC, U&Es, LFTs, coagulation screen.
- Record performance status (WHO/ECOG).
- Consent - ensure patient has received adequate verbal and written information regarding their disease, treatment and potential side effects. Document in medical notes all information that has been given. Obtain written consent on the day of treatment.
- Urine pregnancy test - before cycle 1 of new chemotherapy course in women of child-bearing age unless they are post-menopausal, have been sterilised or undergone a hysterectomy.
- Treatment should be agreed in the relevant MDT.

## DRUG REGIMEN

**Day 1 METHOTREXATE 12.5mg** [or as indicated by specific protocol] INTRATHECALLY  
*Allow drug to reach room temperature before administering.*

## CYCLE FREQUENCY

Dependent on concurrent chemotherapy regimen.

## RE-STAGING

For CNS treatment, continue at least weekly until CSF count normal + 1 further dose

## DOSE MODIFICATIONS

Dose modifications are not recommended. Consider treatment delay if the platelet count is very low or coagulation is abnormal. If platelets  $< 40 \times 10^9/L$  give 1-2 pools of platelets (depending on prior platelet increments) just before/during procedure. Correct any coagulation abnormality.

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## CONTRAINDICATIONS

Hypersensitivity to active ingredients and excipients. Refer for full details to Summary of Product Characteristics (SmPCs).

## INVESTIGATIONS

FBC, U&Es, LFTs. Aim for platelet count of  $> 40 \times 10^9/L$  and PT/APTT within normal range.

## CONCURRENT MEDICATIONS

Calcium folinate is indicated in specific protocols, otherwise none required. See individual treatment protocol.

## EMETIC RISK

Minimal

## ADVERSE EFFECTS

- Lumbar puncture side-effects: most common headache, swelling, bruising or discomfort in lower back; less common: arachnoiditis; fever, infection, rarely leucoencephalopathy
- Care should be taken if radiotherapy is given during or after intrathecal methotrexate therapy as it can exacerbate methotrexate toxicity
- IT methotrexate will reach the blood stream and can have systemic effects

## INTERACTIONS

Anticoagulants and antiplatelets can increase the risk of bleeding when intrathecal methotrexate is administered during the lumbar puncture. Consider the risk of bleeding vs risk of thrombosis when suspending anticoagulants and antiplatelets. Refer to the Association of British Neurologists clinical guideline [\[Link\]](#) (summary of recommendations in Table 1 below).

Table 1. Recommendations for discontinuation of medications in patients with normal renal function.

	Anticoagulants					Antiplatelets	
	LMWH prophylaxis	LMWH treatment	Rivaroxaban + Apixaban	Dabigatran	Warfarin	Aspirin 75mg	Clopidogrel
<b>Withhold before IT MTX</b>	12 hours	24 hours	24 hours	48 hours	5 days* check INR $\leq 1.4$	continue	7 days (Consider aspirin)
<b>First dose after IT MTX</b>	4 hours	4 hours (24 hrs if traumatic)	6 hours	6 hours	12 hours	No delay	6 hours

\*Warfarin – consider bridging with LMWH in high-risk patients.

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**EXTRAVASATION RISK**

Not applicable

**TREATMENT RELATED MORTALITY**

Less than 1%

**REFERENCES**

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**REVIEW**

Name	Revision	Date	Version	Review date
NSSG Lymphoma Group	Annual protocol review	May 2019	3.5	May 2021
NSSG Lymphoma Group Graham Collins, Consultant Haematologist, Natalia Czub, Haematology Pharmacist	Annual protocol review. Contraindications and interactions sections updated.	July 2022	4.0	July 2024

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