METHOTREXATE (oral or subcutaneous) for psoriasis and other dermatological conditions

It is vital for safe and appropriate patient care that there is a clear understanding of where clinical and prescribing responsibility rests between Consultants and General Practitioners (GPs). This guideline reinforces the basic premise that:

When clinical and / or prescribing responsibility for a patient is transferred from hospital to GP, the GP should have full confidence to prescribe the necessary medicines. Therefore, it is essential that a transfer of care involving medicines that a GP would not normally be familiar with, should not take place without the “sharing of information with the individual GP and their mutual agreement to the transfer of care.” These are not rigid guidelines. In all cases, Consultants and GPs should discuss the appropriate management of individual patients personally. On occasions, Consultants and GPs may agree to work outside of this guidance. As always, the doctor who prescribes the medication has the clinical responsibility for the drug and the consequences of its use.

Indications:
Psoriasis and other dermatological conditions.

Dosage and administration:
Dose range 7.5mg ONCE WEEKLY titrating according to clinical response to a maximum of 30mg once weekly. All dosage adjustments will be made in clinic unless GP specifically directed otherwise. The dose can be administered orally (2.5mg tablets) or subcutaneously (S/C). Patients should be on a regimen of folic acid supplementation to help prevent toxicity. Dermatology patients to be prescribed 5mg folic acid daily, omitting a dose on the day they take methotrexate.

Monitoring requirements (Results must be recorded in the National Patient Safety Agency “patient-held blood monitoring and dosage record booklet”):
- FBC, LFTs, U&Es and creatinine weekly for the first four weeks, then fortnightly for four weeks, then monthly thereafter if stable
- If dose is increased, repeat FBC and LFTs after 2 weeks, and then return to monthly.
- Pro-collagen amino peptide (PCAP) (as marker for liver fibrosis) at baseline and then 6 monthly
- Serum aminoterminal peptide of procollagen III (PIIINP) (should be checked every 6 months (patients with psoriasis only)
- Baseline chest X-ray

Additional information:
- Alcohol should be avoided completely.
- All patients, male and female, should be advised against conception and pregnancy during treatment with methotrexate as it is an abortifacient and is teratogenic. Patients should be advised to continue contraception for at least 6 months after stopping methotrexate.
- Patients should be advised to report all symptoms and signs suggestive of infection, especially sore throat.

For dermatology patients, responsibility for monitoring rests with the Dermatology Consultant for first 3 months. Thereafter, responsibility rests with the GP.

Action to be taken if abnormal results/adverse effects:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Action</th>
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</thead>
<tbody>
<tr>
<td>WBC &lt;3.5 x 10^9/L</td>
<td>Check neutrophil count</td>
</tr>
<tr>
<td>Neutrophils &lt; 2.0 x 10^9/L</td>
<td>Monitor weekly. If falls below 1.5 x 10^9/L STOP DRUG and contact Dermatology Consultant</td>
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<tr>
<td>Platelets &lt; 150 x 10^9/L</td>
<td>Monitor weekly. If falls below 100 x 10^9/L, contact Dermatology Consultant</td>
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<tr>
<td>Symptom</td>
<td>Management</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>MCV &gt; 105 fl</td>
<td>Check B₁₂ and folate and if low, start appropriate supplementation. Stop methotrexate if MCV &gt;106fl despite folic acid supplementation and other causes excluded</td>
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<tr>
<td>Threefold increase in ALT/AST</td>
<td>Monitor weekly. If ALT continues to rise, contact Dermatology Consultant.</td>
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<tr>
<td>PIIINP raised</td>
<td>If &gt;8mg/L on two occasions or if three measurements are &gt;4.2mg/L in a 12 month period or if &gt;10mg/L on one occasion contact dermatology consultant.</td>
</tr>
<tr>
<td>Rash/alopecia</td>
<td>Assess severity and ensure taking folic acid. If mild, consider reducing dose of methotrexate. If severe, contact Dermatology Consultant.</td>
</tr>
<tr>
<td>Oral ulceration, sore throat, abnormal bruising</td>
<td>Check full blood count.</td>
</tr>
<tr>
<td>Respiratory symptoms, acute shortness of breath and or dry cough.</td>
<td>Methotrexate should be stopped if the patient develops respiratory symptoms and contact the dermatology consultant. If severe, refer to Acute Medical Assessment Unit.</td>
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<tr>
<td>Gastrointestinal symptoms:</td>
<td>Consider a bedtime regimen or with food. Consider co-prescribing an anti-emetic. If symptoms continue, consider switching to SC methotrexate. Withdraw treatment if stomatitis develops</td>
</tr>
<tr>
<td>Sore throat</td>
<td>Check FBC and act on results as above.</td>
</tr>
<tr>
<td>Abnormal bruising</td>
<td>Check FBC and act on results as above.</td>
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</table>

**In addition to absolute values for haematological indices, a rapid fall or a consistent downward trend in any value should prompt caution and extra vigilance.**

**Contraindications**
- Methotrexate should not be given to pregnant women. Women must be off therapy for at least 6 months before conception and males must be off methotrexate for a minimum of 3 months before conception
- Breastfeeding
- Active infection
- Alcohol consumption
- Hypersensitivity to methotrexate
- Severe/significant liver or renal disease – see cautions below
- Ascites
- Significant pleural effusion

**Drug interactions:**
- Avoid concomitant administration of co-trimoxazole, trimethoprim and other antifolate drugs with methotrexate; can cause severe bone marrow suppression.
- Methotrexate is extensively protein bound and may displace, or be displaced by other acidic drugs. A list of such drugs can be found in the drug’s summary of product characteristics
- For patients in whom it is unavoidable to co-prescribe penicillins and methotrexate, closer monitoring is recommended.
- Hepatic and nephrotoxic drugs should be avoided
- There is NO contra-indication to the concomitant use of methotrexate and non-steroidal anti-inflammatory drugs (NSAIDs) — however, NSAIDs can reduce the excretion of methotrexate so closer monitoring is required (recommend 2 monthly)
• Levetiracetam and methotrexate can increase methotrexate toxicity. Monitor blood levels of both if they are to be used concomitantly.
• Live vaccines should not be administered to patients receiving methotrexate

Cautions
• Increased risk of skin cancers; avoid exposure to sunlight and UV light by using sunscreen and protective clothing
• Renal insufficiency:
Methotrexate should be used with caution in patients with impaired renal function. The dose should be adjusted as follows:

<table>
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<tr>
<th>Creatinine clearance (ml/min)</th>
<th>Dose reduced by</th>
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<tr>
<td>20-50</td>
<td>50%</td>
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<tr>
<td>10-20</td>
<td>50%</td>
</tr>
<tr>
<td>&lt;10</td>
<td>Contraindicated</td>
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• Hepatic impairment:
Methotrexate should be administered with great caution, if at all, to patients with significant current or previous liver disease, especially if due to alcohol. If bilirubin is > 5 mg/dl (85.5 µmol/l), methotrexate is contraindicated.

Adverse Effects
• Myelosuppression, mucositis, pneumonitis, liver cirrhosis, gastrointestinal ulceration and bleeding, diarrhoea, toxic megacolon, fever, headache, nausea, vomiting hypotension, pleuritic pain, pulmonary fibrosis, anaemia, decreased appetite, cough, dyspnoea, fatigue, malaise, thrombocytopenia, Stevens-Johnson syndrome, changes in nail and skin pigmentation, menstrual disturbances, neurotoxicity, arthralgia and myalgia.

Specialist responsibilities:
• Obtain baseline blood results for FBC, LFTs and U&Es, PIIINP & PCAP. Hepatitis B and C serology, HIV serology especially in high risk groups, VZV serology (if no history of varicella)
• Discuss with the patient, the benefits and side effects of treatment.
• Screen for possible contraindications, and a full drug history should be taken
• Advise the patient regarding alcohol intake, the need for regular blood test and the increase risk of infection and possible drug interaction.
• Issue and explain the NPSA methotrexate patient information and patient-held blood monitoring and dosage record booklet.
• Discuss how the patient/carer can be aware of possible signs methotrexate toxicity or intolerance.
• Ensure that patients are aware of the importance of effective contraception for both males & females of child bearing potential and the need to discuss with their consultant should they wish to plan for a pregnancy.
• Seek consent for treatment and document in the patient’s notes.
• Explain the weekly dosage regimen and number of 2.5mg tablets or s/c dose required for prescribed dose.
• Explain the need for folic acid regimen and explain the difference in regimen and presentation in comparison to methotrexate.
• Prescribe methotrexate for a three month trial period. Discontinue methotrexate if no response, or if significant adverse event occurs.
• Update the patient’s NPSA booklet with any dose changes.
• Provide written instruction to the GP to continue prescribing once the patient is stable.
• If patient is switched to SC methotrexate, request this to be prescribed by the GP (unless the patient is within the first 3 months of treatment)
• Promptly communicate with the GP via a clinic letter any changes in treatment, results of monitoring undertaken, and assessment of adverse events. The clinic letter should clearly state if the dose has remained the same or if a dose adjustment had been made – specifically highlighting the new dose in comparison with the preceding one.
• Carry out monitoring according to the recommended schedule and document in the patient’s monitoring booklet.
• As appropriate for psoriasis patients, carry out Pro collagen Amino Peptidase (PCAP) monitoring
(usually 6 monthly after stabilisation, which is approximately after one year methotrexate treatment).

- Decide if a liver biopsy is necessary (e.g. When total accumulative dose of methotrexate reaches 1.5 – 2g)
- Advise GPs when to stop treatment.
- Report serious adverse events (e.g. those requiring hospitalisation) MHRA via the Yellow Card scheme https://yellowcard.mhra.gov.uk/

**Provision of back-up advice and support:**

- Provide clear arrangements for back-up, advice and support.

**GP responsibilities:**

- Monitor the FBC, LFTs, U&Es, PCAP and P111NP as per recommended schedule and document in the patient’s monitoring booklet.
- Once the specialist has recommended continuation following the trial period provide the patient with monthly repeat prescriptions of methotrexate, prescribing oral methotrexate 2.5mg strength tablets (or SC methotrexate), stating the total once weekly dose. The patient should allow at least 48 hours for the GP to generate a prescription.
- Ensure patient’s NPSA booklet and practice computer systems are updated with any dose changes.
- Refer promptly to the specialist if there is a change in the patient’s status or concerns regarding compliance. In most cases, do not stop treatment without discussion with the Dermatology Consultant.
- Refer to dermatology if a patient fails to attend more than 2 blood monitoring appointments.
- Report serious adverse events to the specialist and MHRA via the Yellow Card scheme https://yellowcard.mhra.gov.uk/
- Administer Pneumococcal Vaccine/ Pneumovax® II and annual influenza vaccines.
- Passive immunisation with Varicella zoster immunoglobulin should be carried out in non-immune patients exposed to chicken pox or shingles.
Patient responsibilities:
- Read the pre-treatment patient information booklet and have a clear understanding of the risks and benefits of oral methotrexate treatment.
- Attend for regular blood tests, as advised.
- Avoid alcohol completely for psoriasis patients.
- Inform clinician if they have started (or stopped) using NSAID pain killers e.g. ibuprofen, naproxen or diclofenac.
- Report any adverse effects to their GP and/or specialist whilst treated with methotrexate.
- Take monitoring booklet every time the patient sees the GP, has a hospital appointment or visits the pharmacist.

Secondary care review:
Every 6 months by consultant or nurse.

Availability
Methotrexate 2.5mg tablets x 28 = £1.74 (October 18 Drug Tariff)
Methotrexate 50mg/ml soln for inj in pre-filled pen (Metoject):
- 7.5mg/0.15ml, 1=£12.87
- 10mg/0.2ml, 1=£13.26
- 12.5mg/0.25ml, 1=£14.35
- 15mg/0.3ml, 1=£14.41
- 17.5mg/0.35ml, 1=£15.25
- 20mg/0.4ml, 1=£15.56
- 22.5mg/0.45ml, 1=£16.11
- 25mg/0.5ml, 1=£16.13
- 27.5mg/0.55ml, 1=£16.50
- 30mg/0.6ml, 1=£16.56

Prices from October 18 Drug Tariff.

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<tr>
<th>Back up advice and support</th>
<th>Telephone/ Fax</th>
<th>Email</th>
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<tbody>
<tr>
<td>Dr B Tan, Consultant Dermatologist WUTH</td>
<td>0151 482 7778</td>
<td><a href="mailto:boontan@nhs.net">boontan@nhs.net</a></td>
</tr>
<tr>
<td>Dr W Farrar Consultant Dermatologist WUTH</td>
<td>0151 482 7778</td>
<td><a href="mailto:wendtfarrar@nhs.net">wendtfarrar@nhs.net</a></td>
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Revised by
Rebecca Winstanley-Jones, Pharmacist
Abigail Cowan
Medicines Optimisation Pharmacist
MLCSU on behalf of NHS Wirral CCG