METHOTREXATE SHARED CARE PROTOCOL
PAEDIATRIC RHEUMATOLOGY SERVICE
SURREY AND SUSSEX HEALTHCARE NHS TRUST

Methotrexate (MTX) is the first line Disease Modifying Anti-Rheumatic Drug (DMARD) for Juvenile Idiopathic Arthritis (JIA) and used in many other chronic paediatric conditions e.g. Juvenile Dermatomyositis (JDM), psoriasis, vasculitis, uveitis & lupus.

Over the last 26 years of clinical use, MTX has transformed the outlook for children with JIA and currently is considered the gold standard for patients who require second line therapy. It exerts its effects through inhibition of folic acid metabolism. It has a good safety record. Clinical response to treatment may take up to 12 weeks after starting treatment.

**Common side effects**

Nausea & vomiting (frequently anticipatory); use Ondansetron an hour prior to MTX. This side effect is less frequent with s/c MTX.

Mucositis & mouth ulcers; ensure compliance of folic acid and its dose may need to be increased.

Transient elevation of liver enzyme ALT. One should bear in mind that ALT may rise during concurrent viral infection, such as URTI, a rather frequent finding in children in general.

Other side effects are much less frequent in paediatric patients.

**Contraindications**

Active TB, Varicella-Zoster Virus (VZV) & hepatitis

**Drug interactions**

Avoid trimethoprim-containing antibiotics

**Dosage (oral and s/c)**

Starting dose is 10 -15 mg/m² once weekly. Dose can be increased if necessary up to a maximum of 25mg/m²/wk. There is no evidence that higher dosage will have extra-benefit.
To calculate body surface area (BSA):

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BSA (m^2) = \sqrt{\frac{\text{height (cm) } \times \text{weight (kg)}}{3600}}
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**Methotrexate Administration**

MTX can be given **orally, s/c or IV**. The same dose is given regardless of the route of administration.

**Note:** IM route is not recommended in children.

**Pre-treatment Consideration**

1. FBC, LFT and varicella immune status. Non-immune children on MTX who come in contact with chicken pox should be discussed with microbiologist for VZIG consideration. JIA patients on MTX who develop the chicken pox infection should be treated with acyclovir until the lesions have completely crusted over.

2. Although the recommended dose of MTX for children with JIA is far less than that given to oncology patients, it would be safe to assume that JIA child is immunocompromised and receive the appropriate attention. Therefore, these children should avoid the following live vaccines: MMR, oral polio, BCG, oral typhoid, varicella & yellow fever.

3. It has been agreed that for rheumatology patients on methotrexate they will follow the following regime:

   a. Folic acid 1 mg (2 mls) once a day for 7 days a week for patients starting MTX
   b. If patient does not want liquid, use 5 mg once a week 24 hours after MTX
   c. Patients with renal failure should have 5 mg once a day
   d. No need to change patients who are happy/used to a different regime.

**Note:** Folic acid formulations available as:

- Syrup: 2.5mg/5ml
- Tablet: 5mg
BSPAR Recommendations on blood Monitoring

1. Full blood profile (haematology/ LFT/ chemistry) to be done at base line. Blood is taken for FBC/LFT fortnightly X 2 times followed by monthly X 2 times & every 2 months subsequently. Same regime is applied after dose change for increased dose. Note for reduced dose no need to change monitoring.

2. If levels of ALT were over the 3 times upper limit of reference, or values > 100 iu/l the MTX should be omitted and bloods repeated following week. Inform prescriber.

3. Blood count results: WBC < 3.0, neutrophils < 1.5 or lymphocyte < 0.5, the MTX omitted as above. Inform prescriber.

4. Any other issues should be discussed with Dr Hilaly and community nursing team.

In the absence of the lead consultant, the Lead CCNT Nurse is approved to countersign prescriptions in the case of changes to routes of administration only are required.

Rationale for the use of s/c MTX

Subcutaneous MTX in pre-dosed pre-filled syringes is now licensed for poly-JIA in children less than 3 y who have failed to respond adequately to NSAIDS. These are safer to administer, and ideally given within home.

Commercially available syringes like Metoject (Medac Ltd) currently come in gradients of 2.5 mg in a dose range from 7.5 mg – 30 mg per week. If a patient has been prescribed a dose smaller than 7.5 mg i.e. off licence dose, these would need to be specifically made up. At SASH, this will be outsourced from RSCH Production Unit and will require at least 48 hours notice period prior to treatment. This has similar implications for weaning doses prior to stopping treatment.