### Safety Alert - Once Weekly Oral Methotrexate

**Issue**
Methotrexate is an antimetabolite, primarily used orally once weekly in the treatment of rheumatoid arthritis, psoriasis and Crohn’s disease. Methotrexate is a high-risk drug, i.e. serious patient harm can occur as a result of errors involving incorrect frequency (daily rather once weekly), incorrect strength tablets, incorrect strength tablets, or from an adverse drug reaction. Care must be taken with methotrexate use at all stages of medication use, including at transitions of care.

*(Note this alert does not cover the use of methotrexate in haematology or oncology.)*

### Evidence of Harm
Numerous adverse events have occurred worldwide as a result of preventable errors. Some examples include:

- A hospital in-patient received 15mg methotrexate orally daily instead of the intended weekly dose for 8 days, resulting in death from bronchial pneumonia as a consequence of bone marrow suppression caused by methotrexate toxicity.
  
  *(Ireland)*(1)

- A patient was prescribed, dispensed and administered methotrexate 10mg orally daily, instead of the intended once weekly dose in community and in hospital. The patient died. *(UK)*(2)

- A GP prescribed a daily dose of oral methotrexate for a flare-up of psoriasis. The pharmacist queried the dose but was reassured it was correct and despite concerns dispensed the prescription. Patient subsequently died of complications of methotrexate toxicity. *(Australia)*(3)

### How to Reduce the Risks in hospitals

- Keep only one strength of oral methotrexate (2.5mg) in stock.
- Prescribe, dispense and administer oral methotrexate **ONCE WEEKLY** (usual dose range 7.5mg – 25mg orally once weekly), specifying the day of the week.
- Specify the number of tablets (“10mg, i.e. 4 x 2.5mg tablets”) to be taken per dose.
- **Ensure that the patient understands their therapy, including dose and frequency, when and where monitoring will be carried out, the signs and symptoms of toxicity and what to do if they occur.** Provide written information to patients.
- Folic acid 5mg once weekly orally is indicated to reduce mucositis and gastrointestinal side effects. It should be administered on a different day of the week to methotrexate(4).
- Be aware of methotrexate contra-indications and cautions, symptoms of adverse reactions and toxicity, the appropriate monitoring to carry out and potential interactions with other drugs, e.g. NSAIDs as they can reduce renal function and thus decrease the clearance of methotrexate(5).
- Write the drug name in full: never abbreviate.
- In hospitals, the Drug Chart should clearly indicate which day methotrexate is due. Cross out the remaining days on the prescription as shown:

  - **Monday**: 2.5mg
  - **Tuesday**: 2.5mg
  - **Wednesday**: 2.5mg
  - **Thursday**: 2.5mg
  - **Friday**: 2.5mg
  - **Saturday**: 2.5mg
  - **Sunday**: 2.5mg

### Further information

Product information on [www.hpра.ie](http://www.hpра.ie), [www.medicines.ie](http://www.medicines.ie) or other reliable references, e.g., BNF(6).

Methotrexate guidance available at: [www.thepsia.ie](http://www.thepsia.ie); [www.ipnm.ie](http://www.ipnm.ie)

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**References**

Prepared by:

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