Self Injection Of Methotrexate

EDUCATION PACKAGE
INFORMATION FOR PATIENTS / CARERS

HOW TO GIVE METHOTREXATE BY SUBCUTANEOUS INJECTION

Methotrexate is the drug used to slow down and control your arthritis. It belongs to a group of drugs called cytotoxic agents. It is therefore necessary to take precautions and handle with care when administering the injection.

A trained nurse will explain to you the process of injecting methotrexate and teach you how. You will not be expected to do it yourself until you feel confident.

It is important whilst taking methotrexate that you continue to have regular blood tests and monitoring to check for any side effects. The nurse will inform you how often.

Patient Information: Methotrexate therapy by injection

Your rheumatologist has suggested that you try methotrexate to be given by injection. This may be for one of the following reasons:

- You are unable to tolerate methotrexate tablets due to side effects such as mouth ulcers, nausea, vomiting or diarrhoea. These side effects are far less common with methotrexate injections.
- You have already taken methotrexate tablets, which over a period of time have not improved your arthritis. Methotrexate given by injection results in higher levels of methotrexate available for the body to use.

Methotrexate injections are only available from the Christchurch Hospital Pharmacy but may be courier out to other pharmacies if you live out of town.

Remember Do Not Inject If…
- You think you are pregnant
- You have an infection or feel unwell
- You have not had a blood test within the last 8 weeks

Remember To…
- Use effective contraception
- Keep alcohol to a minimum
- Attend regularly for blood tests to monitor safety and effects of methotrexate.
GETTING READY

Do make sure there are no distractions such as children or dogs in the room.

You will need: Pre filled syringe. Needle. Sharps container.

1. Set up a clean worktop or table as a workstation.
2. If you have stored your injection in the fridge remove it at least 30 minutes prior to administering the injection. (the injection may cause discomfort if cold)
3. Place all items on the work bench
4. Wash and dry your hands
5. Sit or stand comfortably by your workstation.
6. Decide where you are going to put your injection, in your tummy or thigh.
7. Prepare the equipment.
   - Open the packet with the injection.
   - Check that the methotrexate is in date (if not do not use it)
   - Check that the methotrexate packaging is labelled for you and is the correct dose (if not do not use)
   - If administration by carer - put on disposable gloves
   - Peel open the packet containing the needle, ensure you do not touch the hub of the needle that attaches to the syringe
   - Remove the screw top from the tip of the syringe and then screw on the needle without touching the connections
   - Place the syringe with covered needle back onto the injection tray

Do not rush your injection; make sure you have plenty of time.
As you get used to giving the injection you will find it much easier.

Giving the injection

1. Expose the skin where you will give the injection
2. Remove the cover from the needle, holding the syringe like a pen as if you are going to write your name
3. Make sure the needle does not come into contact with anything on the way to the skin
4. Pinch the skin and insert the needle into the skin at 90°
   Make sure the needle is all the way in
5. Once the needle is in place, release your pinch on the skin and depress the plunger and deliver the injection.
6. When you have injected all of the methotrexate remove the needle.

Do not put the cover back on the needle. Just discard the syringe and needle into the sharps container.

Your next injection will be due in one week’s time
**Note:**

You may notice bleeding or bruising at the injection site. Do not worry, this sometimes happens when the needle has punctured a small blood vessel. The bleeding will soon stop and the bruising will gradually disappear. You may also notice some of the methotrexate leak out onto the skin. In either case, you may want to apply some pressure to the area with a clean tissue.

It is not necessary to swab the skin with any solution beforehand, as long as the area to be injected is clean and free from any rash or spots.

It is important that you alter the injection site every week; this is to prevent the area becoming sore.

Each injection is labelled with your details and an expiry date. If any of the details on the syringe are incorrect or it is out of date do not use. Discard into your sharps container.

You can travel on holiday with methotrexate; it should be kept cool but does not necessarily need to be kept in a fridge. Speak to the rheumatology nurses in advance about taking a supporting letter with you.

If you spill your methotrexate, rinse area with water and discard syringe in sharps container. If you received no methotrexate from this injection, get a new syringe and administer your injection. If you received some of the injection (even if only a small amount) do not use another injection and have your next injection in a weeks time.

**For what reasons should I call the rheumatology nurse?**

1. For a new script
2. To arrange replacement of your sharps container or you have run out of equipment
4. If you are experiencing side effects
5. If your arthritis is not being very well controlled by the methotrexate injections
6. If you need a supporting letter for foreign travel

Rheumatology Nurse Specialist – 364 1144  
Or 364 0640  Pager 8644

Pharmacy – 364 0840
Nursing Guidelines on the use and administration of intramuscular and subcutaneous methotrexate in Arthritis

What is methotrexate?

Methotrexate is a cytotoxic agent indicated for the treatment of active rheumatoid arthritis and some other inflammatory arthropathies. It can be administered via the oral, subcutaneous and intramuscular route. Methotrexate suppresses clinical and laboratory markers of disease activity and is used to slow the progression of the disease but the precise mode of action is unknown. Methotrexate is normally used together with non-steroidal anti-inflammatory drugs particularly in the early stage of treatment. Response to treatment can be expected to take up to two or three months.

Indications for using IM or SC Methotrexate

- Active Rheumatoid Arthritis
- Psoriatic Arthropathy
- Polymyositis
- When oral methotrexate is not tolerated

Contraindications and Warnings

- Pregnancy and breast-feeding
- Teratogenesis – stop drug 180 days before possible conception
- Gross renal or hepatic disease or high alcohol intake
- Blood dyscrasias
- Reduced male fertility
- Care with drugs including Sulphonamides, Azathioprine, and Phenytoin
- Probenecid
- Trimethoprim and Co-trimoxazole should be avoided
- Live vaccines should be avoided
- Annual flu vaccine should be given

Dosage

Methotrexate is given ONCE WEEKLY at a dose ranging from 7.5 mg to 25 mg according to individual response
Folic acid 5 mg oral taken once weekly may reduce adverse reactions; it should be taken on the 4th day after methotrexate.
## Monitoring

Pre-treatment screening  
Blood monitoring monthly

### PRE-TREATMENT SCREENING  
### EACH MONITORING VISIT

<table>
<thead>
<tr>
<th>Laboratory Events</th>
<th>Values</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>White blood count</td>
<td>&lt; 4.0 x 10⁹/L</td>
<td>Seek advice, stop if very low</td>
</tr>
<tr>
<td>Neutropenia</td>
<td>&lt; 2.0 x 10⁹/L</td>
<td>Seek advice, stop if very low</td>
</tr>
<tr>
<td>Thrombocytopenia</td>
<td>&lt; 150,000 x 10⁹/L</td>
<td>Seek advice, stop if very low</td>
</tr>
<tr>
<td>Macrocytosis</td>
<td>&gt; 105</td>
<td>Check B12 and folate</td>
</tr>
<tr>
<td>Elevation of liver enzymes</td>
<td>&gt; 2 x upper limit of reference range</td>
<td>STOP and repeat LFTs</td>
</tr>
</tbody>
</table>

### Clinical Adverse Events  
### Management

**Mouth ulcers/stomatitis**  
STOP Methotrexate if severe  
Reduce dose if mild/moderate  
Consider Difflam mouthwashes  
Consider other causes  
Check folate levels

**Cough or dyspnoea**  
STOP Methotrexate if concerned  
Chest x-ray and pulmonary function tests  
Seek advice immediately  
Acute pneumonitis is rare but can be life threatening and should be considered if the patient has a dry cough or is short of breath

**Nausea/anorexia**  
Patients may experience nausea even when methotrexate is given by the i.m. or S.C. route.  
Try anti-emetic or dose reduction.  
STOP if unacceptable

**Increased nodule formation**  
Reassure patient  
STOP if unacceptable
Responsibility when giving Methotrexate

The Rheumatology department at the hospital will arrange the necessary tests and counsel the patient prior to commencing methotrexate, however the nurse administering the injection must check and document that:

- The patient has had a chest x-ray within the last 6 months
- Females have received contraceptive advice to avoid pregnancy whilst on, and for 6 months after taking Methotrexate
- Males have been advised that fertility may be reduced
- The patient has been advised to limit alcohol intake
- The patient has received verbal and written information about methotrexate, knows where and when to attend for treatment and monitoring and whom they should contact if they are unable to attend or experience problems

Before the injection

- Ask the patient if they have experienced breathlessness, a dry cough, mouth ulcers, nausea or any overt signs of infection. Methotrexate should be withheld if any of these have occurred and the doctor must be informed
- Ascertain that appropriate monitoring has been carried out and check that the prescribing doctor has seen and approved the results of the most recent blood tests. (Some practices may have protocols for nurses to take the responsibility for carrying this out)

Handling, administration and disposal of Methotrexate

Methotrexate is cytotoxic; the following precautions should be taken: -
- Wear protective plastic gloves
- Use aseptic technique throughout
- Dispose of vials, needles and syringes in a purple sharps bin
- Dispose of gloves in a purple waste bag.

*Female staff who are pregnant or are trying to conceive should not handle methotrexate*

Dealing with a spillage

Wash area well

Self administration of Methotrexate by subcutaneous injection

Patients may be taught to self-administer methotrexate subcutaneously. Pre-filled syringes containing the required amount of methotrexate are available from the hospital pharmacy. The hospital pharmacy will also provide needles
PROTOCOL FOR THE ADMINISTRATION OF SUBCUTANEOUS METHOTREXATE BY TRAINED RHEUMATOLOGY NURSES, PATIENTS AND CARERS

STATEMENT OF NEED

Patients with a variety of rheumatological conditions attend the rheumatology nurse led clinics to be taught how to self-administer their own subcutaneous methotrexate. When patients prefer not to learn to self-administer the therapy a carer can be taught to give the injection.

Although the quantities of methotrexate used in rheumatology practice are small, methotrexate is a cytotoxic drug and therefore appropriate training including handling of accidental spillage, follow up and telephone support are required to ensure safety.

Administration in primary care is not always possible, some GP’s are reluctant to engage in supervising the treatment because of general concerns about cytotoxic drugs and their disposal.

Consultant Rheumatologists accept hospital supervision by the Rheumatology Nurse Specialists where necessary for patients with complicated disease. However the shared care is the preferred objective.

INDICATIONS

1. Rheumatology nurse will administer the prescribed subcutaneous injections to the patients at the hospital. A leaflet on methotrexate therapy will be provided. Patients and carers will be selected for this procedure following assessment of their:
   - Willingness to administer the injections
   - Ability to administer injections
   - Ability to safely store injections
   - Knowledge of how to deal with drug spillage, sharps disposal and any other problems they might encounter whilst at home.

3. The rheumatology nurse will assess the patient’s/carer’s understanding of the process by discussing the education package with them.

4. The Rheumatologist/Registrar in charge of the patients’ care will write the initial prescription for subcutaneous methotrexate.

LIMITATIONS TO PRACTICE

1. When in the rheumatology nurse’s professional opinion the patients’ condition requires that the injection should not be administered eg. skin rashes, infection, neutropenia, leucopenia, thrombocytopenia, abnormal liver function tests, pregnancy, breast-feeding or planning to conceive. In this instance the nurse may withhold the methotrexate and seek a medical opinion.
CONTRAINDICATIONS

1. The patient is under the age of 16
2. The patient declines
3. Patients and carers will be excluded from home administration if they:
   - Are unable to administer the injection because of poor dexterity as indicated in a practical demonstration to the rheumatology nurse specialist.
   - Show poor compliance in attendance and with the monitoring requirements of the treatment
   - Are unable to safely store the methotrexate injections
   - Show a lack of understanding of the safety requirements

CRITERIA FOR COMPETENCE

1. The Rheumatology Nurse Specialists who are responsible for teaching patients and carers to administer subcutaneous methotrexate must be familiar with the policy on handling, spillage and administration of cytotoxic drugs.
2. The patient and nurse will determine the number of supervised practices that are required to achieve competence.

PROTOCOL AND SKILLS AUDIT

Documentation will include:
1. Untoward incidences and adverse events arising from the administration of subcutaneous methotrexate administered by nurses, patients and carers eg. allergy, inoculation injury
2. Issues relating to patients/carers ability to obtain injections, giving injections, spillage, local skin irritation and disposal of sharps.
3. Patient satisfaction

GP CONTACT

The Rheumatology Nurse will inform the GP by letter that the patient is undergoing self-administration of subcutaneous methotrexate.