Introduction

This fact sheet explains what methotrexate is, how it is given and some of the possible side effects. Some rare and long term side effects are explained as well as the more common ones. Each person reacts differently to drugs so your child will not necessarily suffer every side effect mentioned. If you are concerned about any of these side effects, please ring one of the contact numbers listed and ask for your doctor, nurse or pharmacist.

What is methotrexate?

Methotrexate is a chemotherapy drug that is used to treat certain types of cancer and leukaemia.

Important information you should know:

If your child is taking sulfamethoxazole/trimethoprim (co-trimoxazole), you will be given advice about when you are able to take this medicine whilst your child receives treatment with high or intermediate dose intravenous methotrexate.

How is intravenous methotrexate given?

Intravenous methotrexate is given as an infusion into a vein (intravenously or IV) through a cannula, Hickman line or implantable port.

The dose given is usually termed capizzi, intermediate or high. High or intermediate doses of methotrexate are given as an infusion over 3 to 24 hours and are always given with a drug called folinic acid which minimises most of the side effects of methotrexate mentioned in this leaflet. Capizzi methotrexate is given as an IV push over 5 to 10 minutes and folinic acid is not given. Side effects from capizzi IV methotrexate can be more significant than that with high dose methotrexate.

Extra fluid (alkaline hydration) is given before and after high dose methotrexate and this continues for 3 to 4 days.

How does it work?

Methotrexate interferes with the growth of cancer cells, which are eventually destroyed. Since the growth of normal cells may also be affected, other effects (side effects) will also occur.

What are the most common side effects?

Many of the side effects mentioned are minimised by giving a drug called folinic acid. Your child will start to be given folinic acid 24 to 36 hours after the start of the intravenous methotrexate.

Mouth sores and ulcers: You will be given advice and education about appropriate mouth care. Methotrexate may cause inflammation and/or sores in the mouth that are painful and may make swallowing difficult. If your child complains of having a sore mouth, please tell your hospital doctor or nurse.
Loss of appetite: The CHOC dietitian or nurse can give you advice on boosting appetite, coping with eating difficulties and maintaining your child’s weight.

Sensitivity of skin to sunlight: While your child is having methotrexate, his or her skin may burn more easily than usual. You should ensure your child avoids being exposed to sunlight and other forms of ultraviolet light. If your child does go out in the sun, always use a good sunblock of SPF 30 or higher and ensure they wear a sun hat and protective clothing.

Hair loss: Your child may lose all their hair or it may become thinner. They may also experience thinning or loss of their eyelashes, eyebrows and other body hair. This is temporary and the hair will usually grow back once the treatment has finished.

Skin rash: Occasionally methotrexate may cause a severe rash involving the loss of skin or peeling, and redness and pain on the palms of the hands and soles of the feet. Please contact CHOC if your child develops a rash. They will advise you on the appropriate treatment.

Diarrhoea: Please contact CHOC if your child has diarrhoea which persists. It is important that your child drinks lots of fluids.

Bone marrow suppression: There will be a temporary reduction in how well your child’s bone marrow works. This means he or she may become anaemic, bruise or bleed more easily than usual, and have a higher risk of infection. This effect usually begins 7 days after the treatment has been given and reaches its lowest point at 10 to 14 days after chemotherapy. Your child’s blood count will be checked regularly to see how the bone marrow is working. Please contact CHOC if your child seems unusually tired, has bruising or bleeding, or any signs of infection, especially a high temperature (>38°C).

What are the less common side effects?

Nausea and vomiting: It may begin immediately after the treatment is given and last for several days. Anti-sickness drugs can be given to reduce or prevent these symptoms. Please tell your doctor or nurse if your child’s sickness persists.

Eyes changes: Sometimes methotrexate may also cause blurred vision and inflammation of the eyes. Just as your child can develop a rash on the skin, they can get red, gritty, itchy eyes. Please tell your hospital doctor or nurse if this occurs.

Temporary effect on liver function: Methotrexate can sometimes cause changes to your child’s liver function. This should usually return to normal when the treatment is finished. Occasionally this may cause long term damage. Blood tests may be taken to monitor your child’s liver function (LFTs).

Dizziness: Your child may complain of feeling dizzy while receiving high dose methotrexate. This is temporary. Please tell your doctor or nurse if your child experiences any dizziness.
Altered kidney function: Methotrexate may change how well your child’s kidneys work over a period of time. Your child may have a blood and urine test or a GFR (Glomerular Filtration Rate) measurement before treatment and during and after treatment to monitor kidney function.

Changes in nails: Your child’s nails may become darker. Your child’s nail growth will return to normal in a few months once treatment has finished.

Damage to the brain: Temporary damage to the brain may occur that could mean your child may experience headaches, or drowsiness. Rarely damage to the brain occurs which may result in a decrease in the ability to learn and this can be permanent. Very rarely severe brain damage may occur.

Osteonecrosis: Methotrexate may cause damage to the bones. This can result in bone pain and an increased susceptibility to fractures.

Heart problems: Methotrexate may cause inflammation of the lining around the heart and fluid build-up around the heart.

Use of other medication:
Check with your doctor or pharmacist before giving your child other prescription or over-the-counter medications that is not part of your child’s chemotherapy or supportive therapy protocol.

Handling of body waste
- Urine, blood, faeces and vomit need to be treated with caution during treatment and for 24 hours after.
- Wear gloves when changing nappies.
- Put dirty nappies in a plastic bag and then dispose of them in household rubbish.
- Double flush the toilet after your child uses it.
- If your child wets or soils the bed, remove the bedclothes and wash them twice.

Always practice safe sex, especially when receiving chemotherapy treatment, to avoid chemical transmission to your sexual partner and prevent unwanted pregnancies and Sexually Transmissible Infections (STI’s).

For more information on safe sex, speak to your parents or a health professional.
More Information:

If you have any other questions, please do not hesitate to ask. More information can be obtained from the following:

- CHOC
  Phone (03) 364 1821
- Clinical Outpatient Co-ordinator
  Phone (03) 364 1821
- CHOC Pharmacist
  Phone (03) 364 0640
  Pager 8259
- Shared Care Nurse
  Phone (03) 364 1899