

Chemotherapy (outpatient): Methotrexate (1 to 5 grams/m²)

Your child is receiving IV methotrexate in the clinic. Side effects of methotrexate include kidney damage and mouth sores. It is important to know what to watch for, what to do, and when and who to call for medical help. See the education sheet “Methotrexate for chemotherapy” for more information.

What care does my child need at home?

After an infusion of methotrexate in the clinic:

- Your child will need **continuous IV methotrexate** for 24 hours. This will keep the medicine at a blood level that will kill cancer cells.
- Your child will need continuous IV fluids.

Urine pH and methotrexate

Methotrexate is removed from the body by the kidneys. This works best when the urine’s pH (acid-base balance) is higher than 7. A urine pH less than 7 means the urine is too acidic. This may slow excretion or cause methotrexate crystals to form in the kidneys. This can cause damage to the kidneys or increase the side effects. To prevent kidney damage and increased side effects, IV fluids that have sodium bicarbonate in them are given. These fluids are started hours before the methotrexate is given. This may be done by the home care nurse.

Testing the urine pH

It is important to keep the pH of the urine between 7 and 8. The home care nurse will teach you how to test the urine pH. You will need to test the urine every 6 hours. If the urine pH is below 7, you will need to give your child an additional dose of sodium bicarbonate by mouth. The dose for your child is: _____.

Leucovorin rescue and methotrexate

Leucovorin is a medicine that rescues healthy cells from the effects of methotrexate. It will be started 42 hours after methotrexate starts to help neutralize the side effects of methotrexate on healthy cells. The dose of leucovorin is _____.

The leucovorin is given every 6 hours. It is continued until the methotrexate levels are low enough in the body that the leucovorin isn’t needed. Your doctor or nurse practitioner will tell you when to stop the leucovorin. (See the education sheet “Leucovorin.”)

Methotrexate levels

After the infusion of methotrexate is completed, blood tests will be done daily to measure the level of methotrexate in the blood. Blood samples will be drawn either by the home care nurse or by your clinic nurse.

Are there any precautions about other medicines?

Some medicines can interfere with how the body processes the high dose methotrexate. Those medicines should not be given for 24 hours before starting chemotherapy until the IV fluids are stopped after the methotrexate infusion. The medicines to avoid are:

- trimethoprim/sulfamethoxazole antibiotic (Bactrim®, Cotrim®, Septra®, Co-trimoxazole®, SMX-TMP®)
- non-steroidal medications: ibuprofen (Advil®), naproxen (Naprosyn®), aspirin
- COX-2 inhibitors: rofecoxib (Vioxx®), celecoxib (Celebryx®)
- fluoroquinolone antibiotic group: ciprofloxacin (Cipro®), gatifloxacin (Tequin®), levofloxacin (Levaquin®)

What do I need to do?

We will give you a worksheet with a list of things you need to do and the time to do them. You will need to set an alarm clock at night. Watch for signs of problems and call for help if they occur. (See below, “Who and when should I call for help?”) The home care nurse will teach you how to run the IV pump, give medicines and fluids, and test the urine pH, if needed.

Checking the port site

If your child has an implanted port, check the needle site when your child wakes up, every 2 hours while your child is awake, and every 6 hours at night (when doing your child’s care) or if the child complains of pain at the port site:

- Has the port needle stayed in place?
- Does the site look puffy?

Do these things every 6 hours:

1. Give Zofran by mouth to prevent nausea.
2. Check the IV pumps: are the fluids and/or chemo going down? Mark the tape on the bag with the time.
3. Check the IV site and tubing.
4. Test the urine pH, if instructed. If the urine pH is less than 7, give your child _____ of sodium bicarbonate by mouth.
5. Give the leucovorin as instructed on the worksheet.

Because of all the IV fluids, your child should need to urinate more often. Remind your child to urinate every 3 to 4 hours and before going to bed at night. If your child is in diapers, check every 3 to 4 hours to be sure he or she is urinating often enough.

Teeth should be brushed every morning and at bedtime. Check for reddened, sore spots on gums and inside cheeks. Children who have mouth sores may drool and refuse to swallow. Call the clinic if any signs of mouth sores occur.

What precautions should I take?

All caregivers should wear gloves when handling urine, stool, and vomit while your child is getting the chemotherapy infusion and for 48 hours after it is completed. Urine, stool, and vomit can be safely flushed in the sewer system and septic tanks.

Any clothing or bed linens that are contaminated with urine, stool, or vomit should be washed separately from other laundry in hot water and detergent. Anyone handling the contaminated laundry should wear gloves.

Chemotherapy spills

If skin is contaminated by chemotherapy or body wastes, wash it well with soap and water as soon as possible. If eyes are contaminated by chemotherapy or body wastes, flush the eyes with water for 5 minutes and get medical attention right away.

If the IV pump tubing comes apart:

1. Stop the pump as soon as possible.
2. Clamp the IV tubing.
3. Flush the IV line with saline.
4. Flush the IV line with heparin.
5. Clean up the spill **right away**, following the procedure below.

Cleanup procedure

Supplies for cleanup are provided by the infusion company and include:

- gloves
 - goggles
 - gown
 - plastic-backed absorbent sheets
1. Double-glove; put on gown and goggles.
 2. Soak up the spill with a plastic-backed absorbent sheet.
 3. Clean the spill area **well** with soap and water, or a household cleaner such as window cleaner, bleach, or liquid carpet cleaner, and then rinse with clean water. Repeat 3 times.
 4. Place the absorbent sheet and all used supplies in the chemo waste container.
 5. Wash your hands well.
 6. Call the home care nurse.



Who and when should I call for help?

Call the oncology clinic if:

- vomiting more than once in 24 hours
- diarrhea more than 3 times in 24 hours
- mouth sores or mouth pain
- fever higher than 101.5° F (38.6° C) by mouth
- urine pH is less than 7 and child is not able to take sodium bicarbonate by mouth
- a dose of leucovorin is missed

Call the home care nurse if:

- not urinating at least every 3 to 4 hours
- IV fluid level is not going down
- pump is not functioning properly
- chemotherapy spills
- implanted port site looks puffy
- IV line comes apart
- implanted port needle comes out

Call 911 if:

- trouble breathing
- any other problems that you think need immediate attention

Questions?

This sheet is not specific to your child, but provides general information. For more information, see the specific education sheets for your child's chemotherapy. If you have any questions or concerns, please call the oncology clinic or home care nurse.

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