

# What is methotrexate and how does it work?

Methotrexate has been used since the 1950s to treat a variety of conditions. It was first used in high doses to treat childhood cancers. Low-dose methotrexate decreases inflammation. Inflammation is the cause of some skin problems. This is why methotrexate is used to treat certain skin issues.

Methotrexate works slowly. It can take a few months to notice a big improvement. It is important to take the medication as prescribed, even if your child doesn't get better right away.

## WHAT CONDITIONS ARE TREATED WITH METHOTREXATE?

Methotrexate is used to treat many different conditions. It is used both in children and in adults. Doctors use methotrexate for some long-term skin problems that don't get better with creams or ointments. The most common skin diseases treated with methotrexate are listed in the box at right. Other less common skin conditions can also respond to methotrexate.

## HOW SHOULD MY CHILD TAKE METHOTREXATE?

Methotrexate can be given different ways. It can be taken by mouth as a pill or a liquid. It can also be given as a shot into the skin.

**Methotrexate is not taken every day. It is usually prescribed once per week.** Your doctor can give advice on when to take the medication.

Taking methotrexate by a shot has some benefits. Methotrexate shots tend to work better. Shots may have fewer side effects. When you start the shots, you should receive training so that you and your child can give the medication at home.

Taking a vitamin called **folic acid is often recommended** when starting methotrexate. Taking folic acid can help avoid an upset stomach. Folic acid is usually given every day except the day your child takes methotrexate.

### COMMON CHILDHOOD SKIN CONDITIONS TREATED WITH METHOTREXATE:

- » Atopic dermatitis
- » Psoriasis
- » Alopecia areata
- » Pityriasis lichenoides
- » Morphea
- » Lupus erythematosus
- » Juvenile dermatomyositis

## WHAT ARE THE POSSIBLE SIDE EFFECTS OF METHOTREXATE? WHAT CAN BE DONE TO PREVENT THESE?

Many people worry about side effects of medications. Most children who take low-dose methotrexate tolerate the medication well. Many take it without side effects or experience very mild side effects. Some of these side effects can be prevented.

1. The most common problem is upset stomach. About 1 in 10 patients will complain of upset stomach or fatigue. This can be prevented by taking folic acid.
2. Some children feel tired the day after they take methotrexate. Taking the medication at bedtime can help.
3. Methotrexate can make it harder to fight off infections. Serious infections are rare, but this is important to have in mind.
4. Methotrexate may cause low blood counts. Follow-up blood tests are required.

5. Patients taking methotrexate also need blood tests to monitor liver health.
6. Sudden-onset lung problems is a very rare side effect. This affects adults more than children.
7. Methotrexate does not cause kidney problems. It is important to drink plenty of fluids while taking this medication.

**You should let your doctor know if your child develops any new symptoms while taking methotrexate.**

## ▣ ARE THERE ANY TESTS NEEDED BEFORE OR WHILE TAKING METHOTREXATE?

Yes. **Your child will need blood tests while taking methotrexate.** These tests check the child's blood counts and the health of their liver and kidneys. Your doctor will decide how often the tests are needed. This will depend on how your child is feeling and the results from earlier blood tests. You will also need to come back to the doctor's office every few months so the doctor can check how your child is doing.

## ▣ CAN MY CHILD GET VACCINES WHILE ON METHOTREXATE?

This is an important subject to discuss with your child's doctor. Vaccines are one of the best ways to protect children from infections. There are different types of vaccines. Some, called "live-virus" vaccines, are not recommended for people taking methotrexate. Your provider may recommend taking short breaks from methotrexate to allow your child to get this type of vaccine. It is safe to get non-live vaccines while taking methotrexate. You can find more information in the Society for Pediatric Dermatology's handout on Vaccine Considerations for Pediatric Populations: <https://pedsderm.net/for-patients-families/patient-handouts>

### LIVE VACCINES TO AVOID WHILE ON METHOTREXATE:

- » Intranasal influenza
- » Measles-Mumps-Rubella (MMR)
- » Varicella
- » Rotavirus
- » Oral polio virus
- » Smallpox



**The Society for Pediatric Dermatology**  
8365 Keystone Crossing, Suite 107  
Indianapolis, IN 46240  
(317) 202-0224  
[www.pedsderm.net](http://www.pedsderm.net)

**Contributing SPD Members:**  
Leah Lator, MD  
Patricia Todd, MD

**Committee Reviewers:**  
Heather Brandling-Bennett, MD  
Irene Lara-Corrales, MD

**Expert Reviewer:**  
Elaine Siegfried, MD

The Society for Pediatric Dermatology and Wiley Publishing cannot be held responsible for any errors or for any consequences arising from the use of the information contained in this handout. Handout originally published in *Pediatric Dermatology*; Vol. 40, No. 5 (2023).

© 2023 The Society for Pediatric Dermatology