

Metformin

CEW service Information for children, families, and carers

Your child's doctor has suggested they start taking a medicine called metformin. This leaflet explains what it is. It explains why it is used, and the possible side effects. If you have any questions, please speak to a member of our team..

What is metformin?

Metformin is a medicine used to treat type 2 diabetes in children and adults.

It can also be used if you are at higher risk of developing it in the future. This includes children with:

- **insulin resistance** - when the body does not respond well to insulin
- **pre-diabetes** - when blood sugar is higher than normal
- **polyendocrine metabolic ovarian syndrome (PMOS)** - this affects how the ovaries work.

How does metformin work?

Metformin works in two ways:

- It helps insulin work better in the body
- It reduces the amount of sugar released from the liver. This can help reduce hunger and lower the risk of diabetes in the future.

What are the benefits of metformin?

For children and young people, metformin can:

- lower blood sugar levels
- reduce how much insulin the body needs
- lower the risk of type 2 diabetes
- reduce feelings of hunger
- help with weight loss over time (with healthy eating and physical activity)
- help improve blood fats

For girls with PMOS, it can also:

- help balance hormones
- improve periods
- reduce symptoms caused by higher levels of male hormones

Not every child will notice the same changes. Some benefits cannot be seen but are still important for your health.

Are there any risks or side effects?

Most children and young people tolerate metformin well. Some may have side effects when they first start taking it, such as:

- tummy ache
- diarrhoea (your child should take lots of small sips of water to keep hydrated)
- nausea (feeling sick)

These side effects are usually mild and often improve after a few weeks. Please speak to your GP if they do not improve.

To help reduce side effects:

- your child should take metformin with or after food
- their dose should be increased slowly, following the doctor's instructions

Vitamin B12 deficiency

Metformin can reduce how much vitamin B12 the body absorbs.

Vitamin B12 is found in foods:

- Meat
- Fish
- Eggs
- Dairy products
- Yeast extract (like Marmite)

Most children will get enough from their diet and will not need extra supplements.

A doctor will check vitamin B12 levels with a blood test once a year while they are taking metformin.

If meat or animal foods are not eaten, please let your team know. A B12 supplement may be needed.

How is metformin given?

Metformin comes as:

- tablets (most common)
- liquid
- powder sachets

All forms work the same way. Many people dislike the taste of the liquid, and sachets take more time to get ready. For this reason, we encourage younger children to learn to swallow tablets.

How to take metformin:

- Metformin should be taken with or after a meal.
- If taken twice a day, take it with breakfast and dinner.

How long will my child need to take metformin for?

Most children will take metformin for a few years. This helps to prevent future health problems.

A doctor may ask you to stop if:

- it is not helping
- your child no longer needs it after long-term lifestyle changes

When should my child stop taking metformin?

Sick day rules

Stop metformin for a short time if your child is unwell with:

- a high temperature (above 38.5°C)
- diarrhoea or vomiting
- an illness needing antibiotics
- signs of dehydration (very thirsty, dry mouth, going to the toilet less than four times a day, dark yellow urine)

They can start taking metformin again 24–48 hours after they feel better.

In severe illness, metformin can very rarely cause the blood to become too acidic. This is called lactic acidosis.

Signs include:

- stomach pain
- muscle cramps
- deep or fast breathing
- feeling dizzy, very sleepy, or confused

If your child has these symptoms, go to the nearest Emergency Department or call 999 straight away.

Planned procedures

If your child is going to have a procedure that uses contrast dye or a general anaesthetic (medicine that makes you sleep during an operation), they will need to stop taking metformin the day before the procedure.

They can start taking metformin again 24 to 48 hours after the procedure, if they feel well and are eating and drinking normally.

How do I order more metformin?

Your child's hospital doctor will ask your child's GP to give them a repeat prescription for metformin.

You can request the repeat prescription from your child's GP and collect the medicine from your local pharmacy. If you need to speak with a member of the hospital team, please contact our secretary on: **0300 019 8742** (Monday - Friday, 8am - 4pm).

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Useful links

www.medicinesforchildren.org.uk/medicines/metformin-for-diabetes

www.nhs.uk/medicines/metformin

www.nhs.uk/live-well/eat-well

www.nhs.uk/live-well/exercise/exercise-guidelines/physical-activity-guidelines-children-and-youngpeople

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