

METFORMIN

LOWERS BLOOD SUGAR & SUPPORTS WEIGHT LOSS

Metformin is used to manage blood sugar levels in people with type 2 diabetes. It is used off-label to induce weight loss, especially in high-risk individuals. Studies show that metformin may also cause weight loss by modulating appetite control centers in the hypothalamus and altering the gut microbiome.

HOW DOES METFORMIN WORK?

Metformin decreases glucose production in the liver, decreases glucose absorption from the intestines, and improves insulin sensitivity. Metformin lowers blood glucose by about 25% to 30%, with a low risk for hypoglycemia.

Proposed mechanisms of action for metformin that may support weight loss include:

- Decrease in liver glucose production
- Alter gut microbiome
- Suppress appetite-stimulating brain cells in the hypothalamus
- Increase leptin sensitivity
- Appetite suppression by increasing lactate production
- Reversal of age-related metabolic changes
- Alter bile absorption
- Changes signaling in the gut

BENEFITS OF METFORMIN

- Metformin has the following potential benefits:
- Decrease blood glucose levels and glucose production in the liver
- Support weight loss

INDICATIONS

WHAT IS METFORMIN USED FOR?

- Metformin is medically indicated to treat type 2 Diabetes Mellitus.
- Metformin is also used off-label to treat polycystic ovary syndrome.

CONTRAINDICATIONS

WHEN SHOULD YOU AVOID METFORMIN?

- Allergy or hypersensitivity to the medication or its ingredients
- Severe renal impairment
- Acute or chronic metabolic acidosis, including diabetic ketoacidosis, with or without coma
- Type 1 diabetes mellitus
- Use with caution in those who:
- Have kidney disease
- High ketone levels in the blood or urine
- Congestive heart failure
- Liver disease
- Use insulin
- Anemia
- Have high alcohol consumption
- Become easily dehydrated
- Have a history of a heart attack

COMMON METFORMIN SIDE EFFECTS

- diarrhea
- bloating
- stomach pain
- gas
- indigestion
- constipation
- unpleasant metallic taste in mouth
- heartburn
- headache
- flushing of the skin
- nail changes
- muscle pain

RARE METFORMIN SIDE EFFECTS

More serious side-effects include chest pain and allergic reactions. Severe lactic acidosis may develop with symptoms such as muscle pain, trouble breathing, stomach pain, dizziness, feeling cold, weak or tired.