

## METFORMIN - SAFE PRESCRIBING – FIRST-LINE, GO FOR IT!

- ▶ REVIEW DOSES REGULARLY; INCREASE DOSES SLOWLY
- ▶ CONSIDER METFORMIN FOR PATIENTS WITH STABLE RENAL FUNCTION
- ▶ WITHHOLD METFORMIN PRE AND POST-OPERATIVELY
- ▶ MONITOR VITAMIN B<sub>12</sub> STATUS IF WARRANTED

Metformin is generally considered first-line for people with type 2 diabetes and is recommended for people with prediabetes. Metformin should be used as an adjunct, not an alternative to lifestyle improvements.

Metformin lowers blood glucose without altering insulin secretion so hypoglycaemia is not a concern and routine blood glucose monitoring is not necessary if metformin is used as monotherapy.

### REVIEW DOSES REGULARLY; INCREASE DOSES SLOWLY

When initiating metformin, gradually titrate upwards from a starting dose of 500mg once or twice daily. Emphasise the importance of taking each dose with food to reduce gastrointestinal side effects. Twice daily dosing (rather than three times) is usually more acceptable for compliance. Most people will be adequately controlled with a total daily dose of less than 2g per day, some may require up to 2.5g per day.

### CONSIDER METFORMIN FOR PATIENTS WITH STABLE RENAL FUNCTION

Patients with mild-to-moderate renal impairment may still be prescribed metformin, providing they are considered stable, and it is prescribed at reduced dose and renal function is monitored closely (3-6 monthly). If eGFR falls below 30mL/min/1.73m<sup>2</sup> consult a nephrologist or diabetes specialist.

If renal function is compromised, such as during acute dehydration, severe infection, or shock, then treatment should be reviewed.

**Note:** Recent evidence suggests that metformin is not associated with an increased risk of lactic acidosis compared to other antihyperglycemic treatments.

### WITHHOLD METFORMIN PRE AND POST-OPERATIVELY

Because surgery and fasting for surgery can lead to dehydration and hypoxaemia, it is advisable to temporarily withhold metformin. For elective surgery, withhold on the day of surgery, and restart when eating and drinking. For radiological studies, withhold 48 hours prior to the procedure until 2 days after. Monitor glucose levels closely in the post-operative period; short-term insulin therapy may be needed.

### MONITOR VITAMIN B<sub>12</sub> STATUS IF WARRANTED

Vitamin B<sub>12</sub> deficiency is associated with diabetes, and long term use of metformin can also reduce B<sub>12</sub> absorption. If there are concerns, or if symptoms of anaemia or peripheral neuropathy occur, check vitamin B<sub>12</sub> levels. If a deficiency is detected, consider vitamin B<sub>12</sub> supplementation.

### Metformin during pregnancy and breastfeeding

#### Pregnancy category C

Metformin is increasingly being used in clinical practice now there is data to support its use.

NICE guidelines recommend that metformin is offered to women with gestational diabetes if blood glucose targets are not met with diet and exercise within 1-2 weeks. Insulin should be offered if metformin is contraindicated or unacceptable.

**Note:** Women with gestational diabetes should discontinue their hypoglycaemic treatment after giving birth.

#### Use in lactation

NICE guidelines recommend that pregnant women taking metformin with *pre-existing* type 2 diabetes, may continue with it immediately following birth. Metformin should be used with caution if breastfeeding premature infants due to their immature renal function.

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### KEY REFERENCES

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[CLICK HERE FOR FURTHER INFORMATION ON METFORMIN AND A FULL REFERENCE LIST](#)

For further information on other high-risk medicines visit our website at: [www.saferx.co.nz](http://www.saferx.co.nz)

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