

Metformin: An oldie but a goody

Metformin as first choice in oral diabetes treatment:

The UKPDS experience.

[Holman RJ.](#)

[Journ Annu Diabetol Hotel Dieu.](#) 2007:13-20. Diabetes Trial Unit, OCDEM, Churchill Hospital, Old Road, Headington, Oxford, OX3 7LJ, United Kingdom. **Abstract**

Metformin has been used successfully since the 1950s as first line pharmacotherapy to treat people with type 2 diabetes.

It is a biguanide that decreases blood glucose concentration by mechanisms different from those of insulin secretagogues, such as sulphonylureas, or exogenous insulin therapy. Metformin lowers, rather than increases, fasting plasma insulin concentrations and acts by enhancing insulin sensitivity, inducing greater peripheral uptake of glucose, and decreasing hepatic glucose output. By reducing hepatic glucose output it lowers blood glucose and insulin levels with minimal risk of hypoglycaemia, and when used as monotherapy can lower HbA1c by around 1.5%.

It is usually well tolerated, the most common side effects being gastrointestinal. Of particular value is that the improved glucose control seen with metformin is achieved without weight gain.

Concerns that it may increase the risk of lactic acidosis have largely been allayed with recent studies suggesting less than one case per 100,000 treated patients. The UK Prospective Diabetes Study (UKPDS) demonstrated a substantial beneficial effect of metformin therapy on cardiovascular disease (CVD) outcomes, with a 36% relative risk reduction in all cause mortality and a 39% relative risk reduction in myocardial infarction .

The first ever joint ADA (American Diabetes Association) and EASD (European Association for the Study of Diabetes) consensus guidelines on the management of hyperglycaemia in type 2 diabetes state explicitly that metformin should be used as first-line foundation therapy, in addition to lifestyle interventions