

Position Statement: DPP-4 inhibitors ('gliptins') in the management of Type 2 Diabetes

Dipeptidyl peptidase-4 inhibitors, DPP-4 inhibitors, (also known as "gliptins") are a class of oral diabetic medications used in the management of type 2 diabetes mellitus (T2DM) in adults. There are currently 5 gliptins licensed in the UK: alogliptin, linagliptin, sitagliptin, saxagliptin and vildagliptin.

Indication

In line with NICE guidelines ([NG28](#)), gliptins are indicated in patients with T2DM (and who are not at high cardiovascular disease risk) as monotherapy (if metformin is inappropriate), or in combination with other antidiabetic drugs (including insulin) if existing treatment fails to control HbA1c to below the person's individually agreed threshold. Gliptins should also not be prescribed in conjunction with Glucagon-Like Peptide-1 receptor agonists (GLP-1 RA's) as they both work on the same pathway increasing risk of associated acute pancreatitis.

Clinical Effectiveness

[An analysis of gliptins](#) shows they all provide similar, modest reduction in HbA1c. [NICE guidance](#) recommends when reviewing patients on current diabetic treatment that: 'medicines that have had no impact on glycaemic control or weight, unless there is an additional clinical benefit, such as cardiovascular or renal protection', should be discontinued. Therefore, if targets have not been met or if cardiovascular or renal protection is required, review the gliptin and optimise therapy for the management of the patient in line with local prescribing guidelines for managing Type 2 diabetes. Unlike some other agents used in the treatment of T2DM, there is no evidence to suggest that gliptins confer any significant cardiovascular benefits however they do show cardiovascular safety. DPP-4 inhibitors are weight neutral and do not induce hypoglycaemia.

DPP-4 Inhibitors	Formulary Status across South Yorkshire	Usual dose
Sitagliptin (generic)	First line/preferred cost-effective gliptin Generic sitagliptin is first line for all eligible patients/new initiations. Where existing patients are prescribed a different gliptin, and ongoing prescribing of a gliptin is indicated following diabetes review, switch to generic sitagliptin if appropriate. HbA1c should be checked as usual in line with NICE guidance i.e. every 3 – 6 months.	100mg OD 50mg OD – eGFR* ≥ 30 to < 45mL/min/1.73m ² 25mg OD – eGFR* < 30 mL/min/1.73m ²
Linagliptin	Second line Linagliptin is the second line gliptin to be used only after sitagliptin has been tried, or if eGFR < 45ml/min/1.73m ²	5mg OD (No dose adjustment required in renal impairment)
Alogliptin (NB: Not licensed in monotherapy)	Not recommended Where existing patients are prescribed alogliptin, and ongoing prescribing of a gliptin is indicated following next diabetes review, switch to generic sitagliptin if appropriate	25mg OD 12.5mg OD eGFR* ≥ 30 to < 50mL/min/1.73m ² 6.25mg OD eGFR* < 30 mL/min/1.73m ²
Saxagliptin	Not recommended Advice as per Alogliptin	5mg OD 2.5mg once daily eGFR* < 45 mL/min/1.73 m ²
Vildagliptin	Not recommended Advice as per Alogliptin	50mg BD 50mg once daily eGFR* < 50 mL/min/1.73 m ²
Gliptin Combination Products	Not recommended Advice as per Alogliptin	As per individual SPCs

** The varying [SPCs](#) for DPP-4 inhibitors use creatinine clearance (CrCl)/GFR rather than eGFR for dosing; eGFR is considered clinically appropriate for DPP-4 inhibitors. Exceptions to the use of eGFR include use in elderly patients and in patients at extremes of muscle mass where calculation of CrCl is recommended. Further information can be found in the [BNF](#).*

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