

## Glucose Control – drug treatments

*It should be noted that glitazones are under suspicion of precipitating acute cardiac events and current recommendations contraindicate the use of glitazones in patients with a history ischaemic heart disease.*

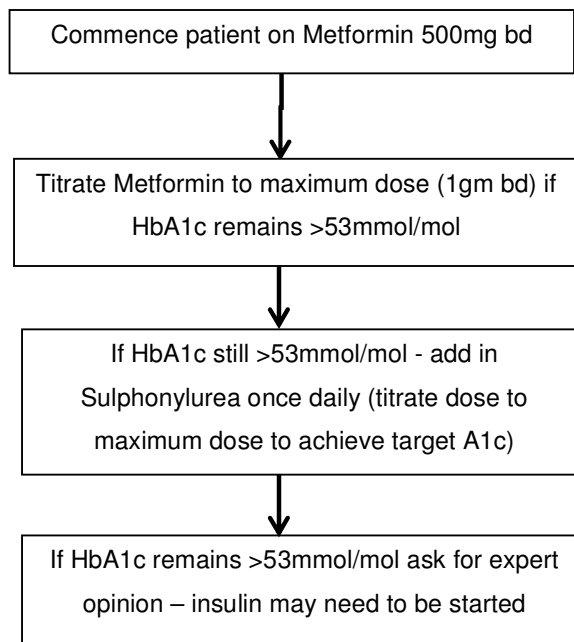
Medication type/classifications	Advantages of this medication	Potential side effects and/or notes of caution when choosing this medication
<p><b>First line therapy - Metformin</b> Biguanide - Inhibits hepatic gluconeogenesis Maximum dose – typically 1 gm twice daily – with food – breakfast and evening meal</p>	<p>Effective for managing glucose targets Promotes weight loss No hypoglycaemia Long term data available for its efficacy</p>	<p>Nausea, flatulence, diarrhoea – titrate dose slowly Review dose if serum creatinine <math>\geq</math> 130 <math>\mu\text{mol/L}</math> or eGFR <math>&lt;</math> 45ml/min. Stop metformin if serum creatinine <math>&gt;</math>150<math>\mu\text{mol/l}</math> or eGFR <math>&lt;</math>30ml/min – risk of Lactic Acidosis Can cause B12 deficiency</p>
<p><b>Other therapy – Sulphonylurea –</b> Stimulate insulin secretion Medications in this class include: Gliclazide MR; Glimepiride; Glipizide</p>	<p>Effective Long term efficacy and safety data</p>	<p>Hypoglycaemia Weight gain May accelerate beta cell failure Caution in patients with hepatic cirrhosis and renal impairment – increased risk of hypoglycaemia</p>
<p><b>Other therapy: DPP 4 Inhibitors –</b> Work through the incretin pathway Medications in this class include: Sitagliptin 50mg bd (in combination with metformin = Janumet); Vildagliptin 50mg bd (in combination with metformin = Eucreas); Saxagliptin 5mg once daily; Linagliptin 5mg once daily</p>	<p>Weight neutral No increased risk of hypoglycaemia May preserve pancreatic beta cell function (speculation currently)</p>	<p>Can cause nausea, abdominal bloating, diarrhoea, immune reactions No long-term safety data Avoid use in patients with previous history of pancreatitis or medullary thyroid cancer</p>
<p><b>Other therapy: GLP 1 Agonist</b> Given as a S/C Injection – Medications in this class include: Exenatide BD S/Cut injection; Liraglutide OD S/Cut injection; Exenatide LAR 2mg once weekly</p>	<p>Weight loss No hypoglycaemia when used on its own Lowers glucagon levels Reduces post-prandial hyperglycaemia Delays gastric emptying May preserve pancreatic beta cell function (speculation currently)</p>	<p>Nausea, bloating, diarrhoea Subcutaneous injection Pancreatitis (rare) but avoid in patients with history of pancreatitis Avoid in patients with history of medullary thyroid cancer No long-term safety data In combination with sulphonylurea, may need to reduce the dose of sulphonylurea to prevent hypoglycaemia</p>
<p><b>Other therapy – Pioglitazone –</b> Thiazolidenedione – insulin sensitizer Starting dose is 15mg once daily, increased to 45mg a day. Can be used in combination with metformin or sulphonylurea or insulin or DPP-4.</p>	<p>No hypoglycaemia Some data suggests cardiovascular benefit May preserve pancreatic beta cell function</p>	<p>Weight gain Fluid overload <b>NOT TO BE USED IN HEART FAILURE</b> Increased risk of bone fracture – avoid in patients with metabolic bone disease Drop in haemoglobin Bladder pathology –avoid in patients with history of bladder cancer</p>
<p><b>Other therapy – Acarbose</b> Alpha-Glucosidase Inhibitor</p>	<p>No hypoglycaemia Reduce post-prandial hyperglycaemia Small reduction in HbA1c when compared to other therapies</p>	<p>Significant GI upset Flatulence Diarrhoea</p>

Medication type/classifications	Advantages of this medication	Potential side effects and/or notes of caution when choosing this medication
<b>Other therapy – Meglitinides</b> Stimulate insulin secretion, act on the same $\beta$ cell receptor as Sulphonylureas Medications in this class include: Repaglinide Nateglinide	Reduce post prandial hyperglycaemia	Hypoglycaemia Weight gain

Source: National Diabetes Working Group

**PLEASE NOTE:** Oral hypoglycaemic drugs should not be considered in women of childbearing age who may be contemplating pregnancy. (See Section on Pregnancy) (E) Error! Bookmark not defined.

**Treatment of patient whose BMI is between 18.5 and 25 kg/m<sup>2</sup> who is not meeting HbA1c target and is Asymptomatic**

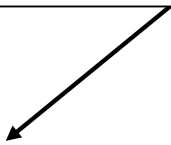


**Treatment of patient whose BMI is between 18.5 and 25 kg/m<sup>2</sup>  
who is not meeting HbA1c target and is symptomatic  
(weight loss, polyuria, polydipsia, ketones may be present)**

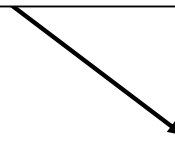
Commence on Sulphonylurea once daily  
(Titrate dose to maximum dose if blood  
glucose remains elevated)



If patients HbA1c remains over 53mmol/mol



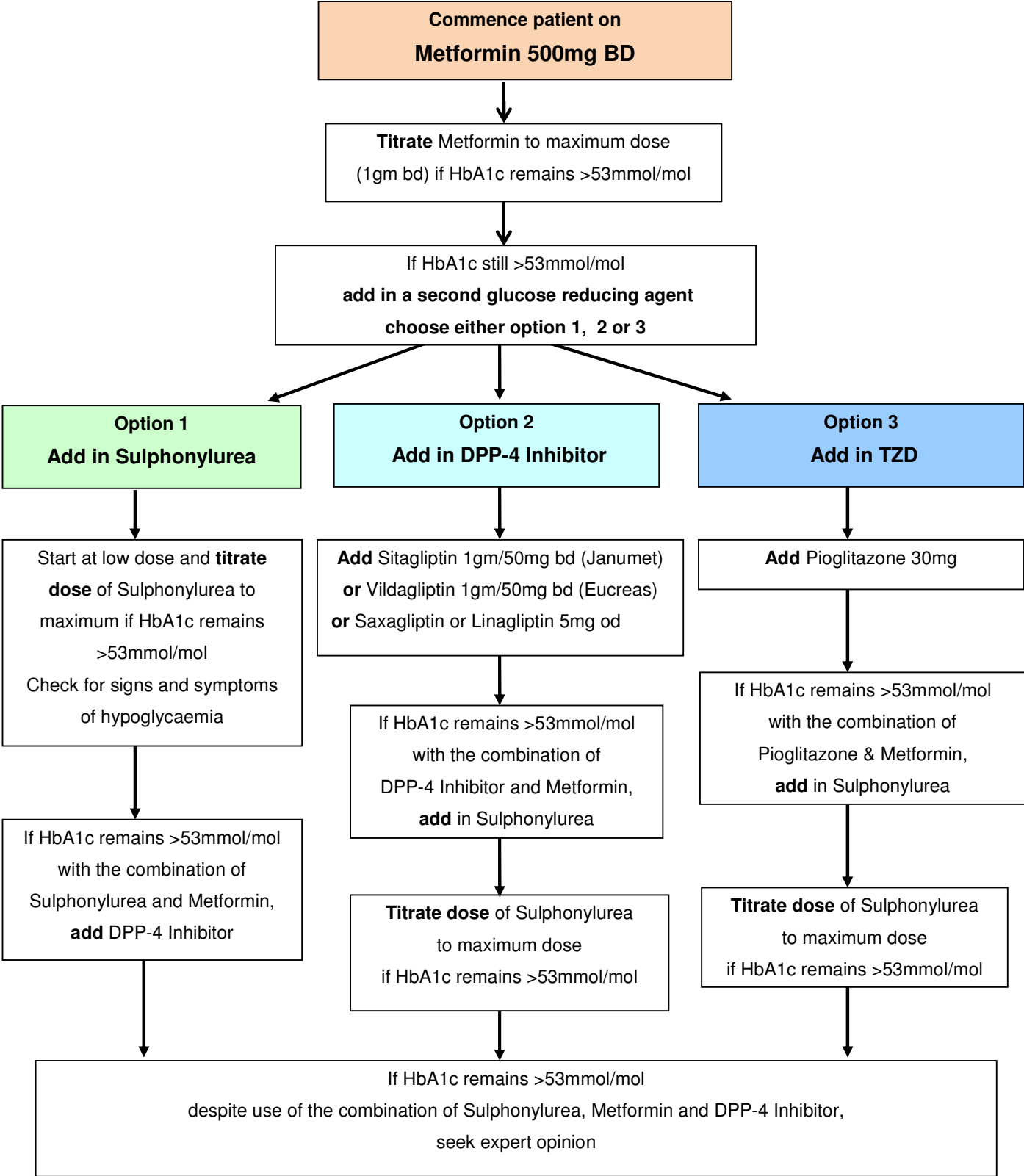
*Urgent referral to Local Diabetes Day  
Centre if: HbA1c > 53mmol/mol and  
patient remains symptomatic with further  
weight loss or ketones – suggests need  
for insulin*



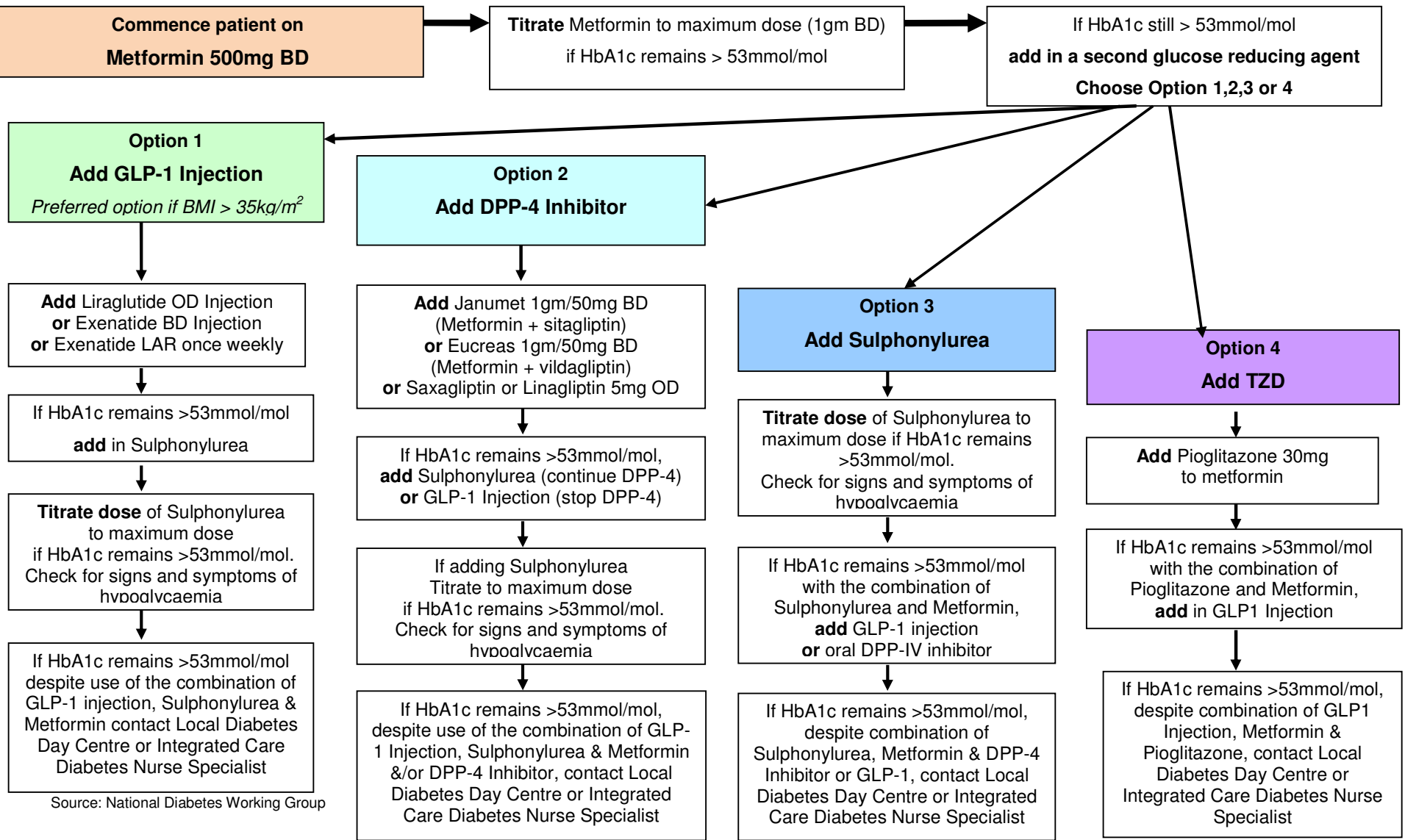
*If HbA1c > 53mmol/mol and weight  
stable and no ketones – commence  
Metformin and titrate to maximum dose  
Contact Local Diabetes Day Centre if  
HbA1c remains > 53mmol/mol - suggests  
need for insulin*

**Source: National Diabetes Working Group**

**Treatment of patient whose BMI is between 25 and 30 kg/m<sup>2</sup>  
who is not meeting HbA1c target**



## Treatment of patient whose BMI is greater than 30 kg/m<sup>2</sup> who is not meeting HbA1c target



Source: National Diabetes Working Group