



Glucose-lowering medicines for type 2 diabetes

Who will need medicines?

Glucose-lowering medicines are suitable for residents with type 2 diabetes. These medicines are not generally used for residents who have type 1 diabetes (i.e. autoimmune cause). They must be used with caution in those residents with declining renal or liver function.

What types of medicines are available for type 2 diabetes?

In Australia there are seven classes of medicines to manage diabetes. Each has a number of different brand names.

Note: There are various combinations of different medicines also available.

Class	Biguanide	Sulfonylurea	DPP-4* inhibitor	GLP-1# agonist (subcut injection)	SGLT2^ inhibitor	Alpha glucosidase inhibitor	TZD+
Drug	Metformin	Glibenclamide, Gliclazide, Glipizide	Alogliptin, Linagliptin, Saxagliptin, Sitagliptin, Vildagliptin	Dulaglutide, Exenatide Liraglutide, Semaglutide	Dapagliflozin, Empagliflozin, Ertugliflozin	Acarbose	Pioglitazone, Rosiglitazone
Brand	Diabex, Diaformin, Formet	Amaryl, Daonil, Diamicon, Glyade, Melezide, Nidem	Galvus, Januvia, Nesina, Onglyza, Trajenta	Byetta, Bydureon, Trulicity, Victoza, Ozempic	Forxiga, Jardiance, Steglatro	Glucobay	Actos, Avandia
Action	Increases insulin sensitivity Inhibits liver's release of glucose	Stimulates insulin secretion from pancreas	Increases insulin secretion after food Decreases glucose production from liver	Increases insulin secretion after food Slows gastric emptying	Increases glucose loss through urine	Slows carbohydrate absorption	Increases insulin sensitivity
Side effects	Nausea Diarrhoea Metallic taste in mouth	Hypoglycaemia	Pancreatitis GI disturbances Joint or muscle pain Nasopharyngitis	Nausea Vomiting Weight loss Pancreatitis	Dehydration Urinary incontinence Genitourinary infections Ketoacidosis Weight loss	Bloating Flatulence Diarrhoea Hypoglycaemia must be treated with glucose	Fluid retention Heart failure Fractures in women Weight gain
Considerations	Cease if diarrhoea continues for a few days Extended release has fewer GI side effects Avoid if severe renal or hepatic impairment May cause weight loss	Efficacy may reduce as beta-cell function declines Avoid in frail older people with irregular eating patterns – especially long acting Isung sulfon Avoid if severe renal or hepatic impairment	Dose reduction for renal impairment (except Linagliptin) Lower risk for hypoglycaemia than sulfonylureas Caution if heart failure Avoid if history of pancreatitis	Avoid if history of pancreatitis Avoid in frail or underweight residents GI effects more common in elderly May suppress appetite	Avoid if low carbohydrate intake Caution with renal impairment Will increase need to urinate	Limited role in residential aged care due to side effects	Change in blood glucose levels may take 12 weeks May worsen heart failure
Administration	With or just after food Withhold if fasting or nil-by-mouth Withhold if acutely unwell	With food Withhold if fasting or nil-by-mouth Withhold if risk of hypo (vomiting/diarrhoea)	Before or after food	Subcutaneous injection only Byetta – 30 minutes before meal twice daily Bydureon and Trulicity – once weekly before or after food Victoza – once daily	Before or after food Withhold if fasting or nil-by-mouth Withhold if acutely unwell	With food	Before or after food

*DPP-4 = Dipeptidyl peptidase-4; #GLP-1 = Glucagon-like peptide-1; ^SGLT-2 = Sodium-glucose co-transporter 2; +TZD = Thiazolidinedione; GI = Gastro intestinal

Regular review of glucose lowering medicines in aged care

Those in residential aged care have different goals and priorities compared to older people who are independent and living in the community. Ensure regular review of glucose targets (every 3-6 months).

Next steps

Six Minute Intensive Training posters:

Know your insulin, Hypoglycaemia, Sick day management.

Read:

- Diabetes management in aged care: a practical handbook – chapter 10: Glucose lowering medicines for type 2 diabetes

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