

Class		Mode of Action	Dose (Duration)	Notes
<b>Biguanides (Sensitizer)</b>	<b>Metformin</b> (Diabex, Diafromin, Formet, Glucohexal, Glucomet, Glucophage, Metforbell)	Insulin sensitizer for hepatic and peripheral tissues. Decreases hepatic glucose output. Increase skeletal muscle uptake. Reduces risk of Morbidity and Mortality, Reduces risk of Macrovascular disease	0.5 to 3.0 g (8 – 12 hours)	GIT disturbance (i.e. bloating, diarrhoea) Lactic Acidosis (consider: severe renal / hepatic impairment, septic shock, surgery, alcohol abuse, conditions associated with tissue hypoxia, keto-acidosis)
<b>Sulphonylureas (Secretagogue)</b>	<b>Glibenclamide</b> (Daonil, Glimel) <b>Gliclazide</b> (Diamicron, Glyade, Millihexal, Nidem, Oziclide) <b>Glimepiride</b> (Amaryl, Aylide, Diapride, Dimirel) <b>Glipizide</b> (Melizide, Minidiab)	Binds to Pancreatic $\beta$ cells. Stimulates release of Insulin.  Reduces risk of Microvascular disease	2.5 – 20 mg (16 – 24 hours) 40 – 320mg (12 – 24 hours)  1 – 4 mg (> 24 hours)  2.5 – 40 mg (6 – 12 hours)	Hypoglycaemia and Weight gain  Consider shorter acting sulphonylureas in elderly or where hypoglycaemia is a problem.  Consider sulphonamide allergy.
<b>Thiazolidinediones (Glitazones) (Sensitizer)</b>	<b>Pioglitazone HCL</b> (Actos) <b>Rosiglitazone maleate</b> (Avandia)	Insulin sensitizer for peripheral tissues, Decrease hepatic glucose output, and affects lipid and glucose metabolism.	15 – 45 mg (24 hours) 2 – 8 mg (24 hours)	Heart Failure. Do not use in NYHA Class III & IV), known ischaemic heart disease, or if ALT > 2.5 x upper limit of normal. Precaution: ketoacidosis, premenopausal anovulation. Oedema & Weight gain Peripheral fractures. 30% do not respond.
<b><math>\alpha</math>-glucosidase inhibitor</b>	<b>Acarbose</b> (Glucobay)	Prevents carbohydrate breakdown to glucose in gut.	25 – 600 mg (3 hours) Taken with first mouthful of meal	Flatulence, abdominal pain, diarrhoea in 2/3 of patients. Hepatic effect (ALT) Contra: Inflammatory bowel disease, or malabsorption.
<b>Non-sulphonylurea secretagogue</b>	<b>Repaglinide</b> (NovoNorm)	Binds to Pancreatic $\beta$ cells. Stimulates release of Insulin.	1.5 – 12 mg (2 – 3 hours) Taken before meals	Hypoglycaemia and Weight gain GIT disturbance. Private Script only

NYHA Class I – No symptoms and no limitation in ordinary physical activity. Eg. Shortness of breath when walking, stair climbing etc.

NYHA Class II – Mild symptoms (mild shortness of breath and/or angina pain) and slight limitation during ordinary activity.

NYHA Class III – Marked limitation in activity due to symptoms, even during less-than-ordinary activity (eg walking short distances >20m to 100m)

NYHA Class IV – Severe limitations. Experiences symptoms even while at rest, mostly bedbound patients.



National Prescribing Service Limited



### **Combinations:**

**Glucovance** – Metformin HCl & Glibenclimide

**Avandamet** – Rosiglitazone maleate & Metformin

### **New Drugs –**

#### **Sitagliptin (Januvia)**

Mode of Action DPP-4 Inhibitor affecting the Incretin hormones. Increases Insulin secretion and reduces glucagon secretion.

Taken as dual therapy with Metformin, Sulfonylurea (Trial data for: glimepiride), Glitazone (Trial data for: Pioglitazone)

Dose: 100mg/day (duration: 24 hours)

Caution: May enhance hypoglycaemic effects of other drugs.