Oral drug therapies for treating type 2 diabetes

Drug	Mechanism	Hb A_{1c} Reduction	Notes
Biguanides (metformin)	Suppresses hepatic glucose production; decreases intestinal absorption of glucose; improves insulin sensitivity	1%–2%; may also reduce lipid and blood pressure levels, although blood pressure effect may not be clinically significant	No weight gain; gastrointestinal side effects; increase in risk for lactic acidosis (avoid if creatinine level >1.4 mg/dL in women and >1.5 mg/dL in men, decompensated congestive heart failure, liver failure, or heavy alcohol use)
Sulfonylureas (glimepiride, glipizide, glyburide, acetohexamide, chlorpropamide)	Increases pancreatic secretion of insulin	1%–2%	Possible initial weight gain; potential for hypoglycemia
Thiazolidinediones (rosiglitazone and pioglitazone)	Increases sensitivity to insulin	1%–2% as monotherapy or when added to other agents	Weight gain and edema; avoid in New York Heart Association class III or class IV heart failure
α-Glucosidase inhibitors (acarbose and miglitol)	Decreases postprandial hyperglycemia by reducing gastrointestinal carbohydrate absorption	0.5%–1%	Gastrointestinal side effects; acarbose contraindicated in cirrhosis and requires liver function monitoring
Meglitinides (repaglinide and nateglinide)	Increases pancreatic secretion of insulin through a different glucose-binding site than used by sulfonylureas	0.5%–2%	Compared with sulfonylureas: shorter onset of action and half-life; greater decrease in postprandial glucose level; lower risk for hypoglycemia

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