

## Oral Antihyperglycemic Agents Cheat Sheet

Medication	Mechanism	A1C Reduction	Hypoglycemia Risk	Benefits	Risks
<b>💧 Biguanides</b> Metformin <i>Glucophage</i> Metformin XR <i>Glumetza</i>	Decreased glucose output from liver, increased insulin sensitivity	1%	Negligible	-Reduction in MI in overweight individuals -Weight neutral	-GI side effects -Vitamin B12 deficiency -Contraindicated in hepatic failure
<b>💧 Sulfonylureas</b> Gliclazide <i>Diamicon</i> Gliclazide MR <i>Diamicon MR</i> Glyburide <i>Diabeta</i> Glimepiride <i>Amaryl</i>	Stimulates endogenous insulin production	0.7-1.3%	Moderate (higher for Glyburide)	Rapid BG lowering	-Gliclazide has lower risk of hypoglycemia, CV events, and mortality -Glimepiride increased stroke risk + 1.5-2.5 kg weight gain
<b>Meglitinides</b> Repaglinide <i>GlucNorm</i>	Stimulates endogenous insulin release	0.7-1.1%	Moderate	Dosing flexibility	-Contraindicated with clopidogrel or gemfibrozil + 0.7-1.8 kg weight gain
<b>💧 SGLT-2 Inhibitors</b> Empagliflozin <i>Jardiance</i> Canagliflozin <i>Invokana</i> Dapagliflozin <i>Forxiga</i>	Inhibits SGLT-2 transport protein to prevent glucose reabsorption by the kidney	0.4-0.7%	Negligible	-Reduction in MACE and CV death, renal preservation, heart failure (Dapa) - 2-3 kg weight loss	-Genital mycotic infections & UTIs -Hypotension -Small increase in LDL-C -Euglycemic diabetic ketoacidosis -Acute kidney injury -Treatment should be withheld prior to major surgery or with serious illness or infections <u>Canagliflozin:</u> -Increased risk of fractures -Increased risk of lower extremity amputation <u>Dapagliflozin:</u> -Not to be used with bladder cancer
<b>DPP-4 Inhibitors</b> Linagliptin <i>Trajenta</i> Sitagliptin <i>Januvia</i> Saxagliptin <i>Onglyza</i>	Increases glucose dependent insulin release, slows gastric emptying, inhibits glucagon release	0.5-0.7%	Negligible	-Typically well tolerated -Weight neutral	-Rare cases of pancreatitis -Rare cases of severe joint pain -Caution with saxagliptin with heart failure
<b>GLP-1 Receptor Agonists</b> Liraglutide <i>Victoza</i> Semaglutide <i>Ozempic</i> Dulaglutide <i>Trulicity</i> Lixisenatide <i>Adlyxine</i> Exenatide <i>Byetta</i>	Increases glucose dependent insulin release, slows gastric emptying, inhibits glucagon release, appetite suppression	1%	Negligible	-Reduction in MACE and CV death in those with CVD - 1.6-3 kg weight loss	-GI side effects common -Contraindicated with personal/family history of medullary thyroid cancer or MEN syndrome type 2 -Rare cases of acute gallstone disease -Worsening of retinopathy (Sema)
<b>AlphaglucoSIDase Inhibitors</b> Acarbose <i>Glucobay</i>	Inhibits pancreatic $\alpha$ -amylase and intestinal $\alpha$ -glucosidase	0.7-0.8%	Negligible	Weight neutral	-GI side effects common -Must treat hypoglycemia with milk, glucose tabs, or honey
<b>Thiazolidinediones</b> Pioglitazone <i>Actos</i> Rosiglitazone <i>Avandia</i>	Enhances insulin sensitivity in peripheral tissues and liver	0.8-0.9%	Negligible	Mild increase in HDL-C	-May induce edema and/or congestive heart failure -Rare risk of macular edema -Higher occurrence of fractures -Pioglitazone not to be used with bladder cancer -Controversy regarding MI risk for rosiglitazone + 2.5-5 kg weight gain
<b>Orlistat</b> <i>Xenical</i>	Inhibits lipase which decreases fat absorption	0.2-0.4%	Negligible	3-4 kg weight loss	-Steatorrhea

💧 Denotes medications to be held in states of dehydration

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Medication	Dosing	eGFR	Cost
<b>💧 Biguanides</b> Metformin <i>Glucophage</i> Metformin XR <i>Glumetza</i>	500 or 850 mg tablets Typically dosed 1000 mg bid or 850 mg tid Max dose 2500 mg/day (However little benefit after 2000 mg) Glumetza 500 or 1000 mg tablets, OD	30-45 ml/min/1.73m <sup>2</sup> 500-1000 mg <30 ml/min/1.73m <sup>2</sup> use alternative	\$
<b>💧 Sulfonylureas</b> Gliclazide <i>Diamicon</i> Gliclazide MR <i>Diamicon MR</i> Glimepiride <i>Amaryl</i> Glyburide <i>Diabeta</i>	80 mg tablets, dosed bid (with meals), max dose 160 mg bid 30 or 60 mg tablets, max dose 120 mg, OD 1, 2 and 4 mg tablets OD, max dose 8 mg OD 2.5 and 5 mg tablets, OD max dose 20 mg	30-60 ml/min/1.73m <sup>2</sup> caution, <30 ml/min/1.73m <sup>2</sup> use alternative <60 ml/min/1.73m <sup>2</sup> use alternative <60 ml/min/1.73m <sup>2</sup> use alternative	\$
<b>Meglitinides</b> Repaglinide <i>GlucoNorm</i>	Available in 0.5, 1 and 2 mg tablets, max dose 4 mg with meals, 16 mg total. Dosed TID with meals	<30 ml/min/1.73m <sup>2</sup> caution, consider lower dose due to hypoglycemia risk	\$\$
<b>💧 SGLT-2 Inhibitors</b> Empagliflozin <i>Jardiance</i> Canagliflozin <i>Invokana</i> Dapagliflozin <i>Forxiga</i>	10 mg or 25 mg tablet, OD 100 or 300 mg tablet, OD 5 or 10 mg tablet, OD	15-45 ml/min/1.73m <sup>2</sup> Canagliflozin 100 mg, others no dose change < 15 ml/min/1.73m <sup>2</sup> use alternative	\$\$\$
<b>DPP-4 Inhibitors</b> Linagliptin <i>Trajenta</i> Sitagliptin <i>Januvia</i> Saxagliptin <i>Onglyza</i>	5 mg tablet, OD 25, 50, or 100 mg tablet, OD 2.5 and 5 mg tablet, OD	Lina: <15 ml/min/1.73m <sup>2</sup> use alternative Sita: 30-45 ml/min/1.73m <sup>2</sup> 50 mg <30 ml/min/1.73m <sup>2</sup> 25 mg Saxa: 15-45 ml/min/1.73m <sup>2</sup> 2.5 mg	\$\$\$
<b>GLP-1 Receptor Agonists</b> Liraglutide <i>Victoza</i> Semaglutide <i>Ozempic</i> Dulaglutide <i>Trulicity</i> Lixisenatide <i>Adlyxine</i> Exenatide <i>Byetta</i>	0.6, 1.2 or 1.8 mg OD, titrate weekly 0.25, 0.5, or 1.0 mg OW titrate monthly 0.75 mg or 1.5 mg OW, titrate monthly 10 µg or 20 µg dose OD, titrate after 14 days 5 µg or 10 µg dose BID, titrate monthly	< 15 ml/min/1.73m <sup>2</sup> use alternative < 30 ml/min/1.73m <sup>2</sup> use alternative < 15 ml/min/1.73m <sup>2</sup> use alternative < 30 ml/min/1.73m <sup>2</sup> use alternative	\$\$\$\$
<b>AlphaglucoSIDase Inhibitors</b> Acarbose <i>Glucobay</i>	50 and 100 mg tablets, dosed BID	<30 ml/min/1.73m <sup>2</sup> use alternative	\$\$
<b>Thiazolidinediones</b> Pioglitazone <i>Actos</i> Rosiglitazone <i>Avandia</i>	15, 30, 45 mg tablets OD, max dose 45 mg 2, 4, and 8 mg tablets OD or BID, max dose 8 mg	< 60 ml/min/1.73m <sup>2</sup> caution	\$\$\$
<b>Orlistat</b> Xenical	120 mg tablets, tid (with meals)	Not available	\$\$\$

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