

ANTI-DIABETIC AGENTS

AGENT	FORMULARY STATUS	INITIAL DOSE	MAXIMUM DOSE	COST#		SIDE EFFECTS
Alpha-Glucosidase Inhibitor						
Acarbose (Precose)*	F	25 mg tid with first bite of meals. Increase dose to 50mg tid with meals after 4-8 weeks, if necessary.	100 mg tid with meals.	25mg tid 50mg tid 100mg tid	\$77 \$85 \$100	Diarrhea (33%), abdominal pain (21%), flatulence (77%); Serum levels of transaminases increases at doses
Biguanide						
Metformin (Glucophage)*	F	500 mg with breakfast. On the basis of patient's tolerance to metformin and glycemic response, increase dosage by 500 mg/day at weekly intervals, adding a dose at dinner and then at lunch. A dosage of 500mg tid with meals will likely be needed for therapeutic effect.	2550 mg/day	500mg tid 850mg tid	\$44 \$75	Nausea and diarrhea that usually subside after 3-5 days; may limit rate of dosage increase. Hypoglycemia occurs only if metformin is combined with sulfonylurea or insulin. Teach patient lactic acidosis issues (e.g., muscle aches, weakness).
Meglitinide						
Nateglinide (Starlix)	NF	120mg tid before meals For patients near HbA _{1c} goal, start 60mg tid ac	120mg tid	60mg tid 120mg tid	\$141 \$147	Hypoglycemia, URT infections, back pain, dizziness, arthropathy
Repaglinide (Prandin)	NF	For pts not on a hypoglycemic agent or HbA _{1c} < 8%, start with 0.5mg 15 min. before a meal. For pts on hypoglycemic agent or HbA _{1c} ≥8%, start with 1 or 2 mg	16 mg/day	0.5 mg tid 1 mg tid 2 mg tid	\$155 \$155 \$155	Hypoglycemia, URT infections, nausea, diarrhea, constipation, back pain, arthralgia and headache. Contraindicated in type 1 DM, & diabetic ketoacidosis.
Sulfonylurea Agents						
Glipizide (Glucotrol*, Glucotrol XL)	F	2.5 mg/day	40 mg; give in two doses when dose reaches 15 mg.	2.5mg qd 40mg/day	\$8 \$50	Hypoglycemia and weight gain
Glyburide (DiaBeta, Micronase)*	F	2.5 mg/day; increase by 2.5 mg weekly if needed	20 mg; give in one or two doses	2.5mg qd 20mg/day	\$10 \$57	Hypoglycemia and weight gain
Glimepiride (Amaryl)*	F	1-2 mg daily with breakfast or first meal; increase at 1-2 mg increments every 1-2 weeks as needed	8 mg daily	1mg qd 2mg qd 8mg qd	\$3 \$8 \$14	Hypoglycemia and weight gain

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Tolazamide (Tolinase)*	NF	100 mg/day	1000 mg; give in two doses when dose reaches 500mg	100 mg qd \$2 1000mg/day \$ 21	Hypoglycemia, jaundice, hematologic abnormalities, GI upset
Chlorpropamide (Diabinese)*	F	100 mg/day	750 mg; give as single dose	100mg qd \$7 750mg qd \$41	Hypoglycemia, syndrome of inappropriate secretion of antidiuretic hormone (SIADH), GI upset
Tolbutamide (Orinase)*	NF	250 mg/day	3000 mg; give in two or three doses	250mg qd \$8 3000mg/day \$93	Hypoglycemia, jaundice, hematologic abnormalities, GI upset, SIADH
Insulin					
Insulin Lispro (Humalog)	F	Individualize dose. Give within 15 minutes before or immediately after a meal.		\$99 per 10mL vial	Hypoglycemia and weight gain.
Insulin Aspart (Novolog)	NF	Individualize dose. Give immediately before a meal.		\$99 per 10mL vial	Hypoglycemia and weight gain.
Insulin Glulisine (Apidra)	NF	Individualize dose. Give within 15 minutes before or immediately after a meal.		\$92 per 10mL vial	Hypoglycemia and weight gain.
Human Insulin (Humulin)	F	Regular: individualized dosing based on BG or sliding scale NPH or Lente 0.1-0.3 units/kg at bedtime. Ultralente before dinner breakfast, or a split dose before breakfast and dinner. If patient has normal or above normal weight, initial dose (in units) =0.1 unit X (fasting BG level-50). If patient is obese, initial dose (in units) =0.1 unit X (fasting BG level-50) X (2.5 X [ABW/DBW -1.5]).		\$41 per 10mL vial	Hypoglycemia and weight gain.

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Insulin Glargine (Lantus)	F	On oral antidiabetic agents: 10IU SC qd Switching from NPH: NPH QD → same dose for Lantus qd NPH BID → 20% reduction of same dose for Lantus qd Adjust based on patient's response.		\$92 per 10mL vial	Hypoglycemia and weight gain.
Insulin Determir (Levemir)	NF	0.1 to 0.2 units/kg once daily in the evening or 10 units once or twice daily		\$92 per 10mL vial	Hypoglycemia and weight gain.
Thiazolidinediones Pioglitazone (Actos)	F	15-30mg QD For combination with metformin, sulfonylurea, insulin, start 15-30mg QD. For insulin, decrease insulin dose by 10-25%	45mg/day	15mg QD \$128 30mg QD \$195 45mg QD \$212	Increased liver enzymes. Hepatic monitoring every 2 months is recommended; moderate weight gain, edema, mild anemia
Rosiglitazone (Avandia)	NF	4mg bid For combination with metformin, sulfonylurea, start 4mg bid	8mg/day	2mg bid \$150 4mg bid \$223 8mg qd \$257	Same as above
Combination Glyburide/Metformin (Glucovance)*	F	1.25mg/250mg qd-bid with meals, increasing dosage as necessary at 2 week intervals. For previously treated patients, start 2.5mg/500mg or 5mg/500mg bid meals	20mg/2000mg daily	1.25/250 bid \$36 2.5/500 bid \$42 5/500 bid \$42	Hypoglycemia, nausea, diarrhea. Contraindicated in patients with renal insufficiency for risk of lactic acidosis.
Rosiglitazone/Metformin (Avandamet)	NF	2mg/500mg bid with meals	8mg/2000mg daily	2/500 bid \$131 2/1000 bid \$131 4/500 bid \$223 4/1000 bid \$223	See Avandia and Glucophage

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Pioglitazone/Metformin (Actoplus Met)	NF	15mg/500mg qd	45mg/2550mg daily	15/500 qd-tid \$193 15/850 qd-tid \$193	See Actos and Glucophage
Pioglitazone/Glimepiride (Duetact)	F	30mg/2mg 30mg/4mg	30mg/4mg	30mg/2mg \$196 30mg/4mg \$196	See Actos and Amaryl
Sitagliptin/metformin (Janumet)	NF	50mg/500mg bid 50mg/1000mg bid	100mg/2000mg	50mg/500mg \$182 50mg/1000mg \$182	See Januvia and Glucophage
Glipizide/Metformin (Metaglip)*	NF	2.5mg/250mg bid	10mg/2000mg daily	2.5mg/250mg bid \$35 2.5mg/500mg bid \$42 5mg/500mg bid \$42	See Glucotrol and Glucophage
Rosiglitazone/Glimepiride (Avandaryl)	NF	4mg/1mg once daily with first meal of the day	8mg/4mg	4mg/1mg qd \$122 4mg/2mg qd \$122 4mg/4mg qd \$122 8mg/2mg qd \$209 8mg/4mg qd \$209	See Avandia and Amaryl
Repaglinide/metformin (Prandimet)	NF	1mg/500mg bid-tid 15 minutes before meals	10mg/2500mg daily in divided doses	1mg/500mg tid \$151 2mg/500mg tid \$151	See Prandin and Glucophage
Incretin Mimetic Exenatide (Byetta)	NF	5mcg	10mcg	5mcg \$204 10mcg \$241	Dose-dependent transient nausea.
Amylin Pramlintide (Symlin)	NF	Type 1: 15mcg Type 2: 60mcg	Type 1: 60mcg Type 2: 120mcg	\$145	Nausea, vomiting, anorexia, headache.
Dipeptidyl peptidase-4 (DPP-4) Sitagliptin (Januvia)	NF	100mg once daily	100mg	25mg \$182 50mg \$182 100mg \$182	Stuffy or runny nose, sore throat, upper respiratory tract infection, headache, abdominal pain, nausea, and diarrhea.

F = Formulary NF = Non-formulary DBW = desired body weight ABW = actual body weight

* = available generically

#Cost is based on a 30 days' treatment with the lowest recommended dosage, according to MAC or AWP listings in First Data Bank, 02/2009

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Note: If frequent hypoglycemia occurs without apparent cause (e.g., medication error, changes in diet, exercise, or timing of regimen), dosage should be reduced. When dosage reaches the minimum for a therapeutic agent, an attempt should be made to control diabetes by diet and exercise alone. When acarbose is used with a hypoglycemic agent (sulfonylurea or insulin), the patient must be taught the importance of treating hypoglycemia with a glucose-based product.