

# Diabetes Medications

Type of drug	Name	Action	Pros	Cons
<b>Alpha-Glucosidase Inhibitors</b>	<b>acarbose</b> (Precose™) <b>miglitol</b> (Glyset™)	Helps to prevent the absorption of sugars from the stomach and intestines.	<ol style="list-style-type: none"> <li>1. Helps control after meal blood sugar levels.</li> <li>2. Does not cause low blood sugar.</li> </ol>	<ol style="list-style-type: none"> <li>1. Only works if taken with first bite of meal.</li> <li>2. May cause bloating, diarrhea, and gas.</li> <li>3. May complicate carb-counting calculations.</li> <li>4. Cannot use in patientw with inflammatory bowel disease or with cancer.</li> <li>5. Should not be used in patients with kidney problems.</li> <li>6. Must treat low blood sugar with glucose tablets.</li> </ol>
<b>Biguanides</b>	<b>metformin</b> (Glucophage®, Glucophage®RX Riomet – liquid form of Metformin)	Decreases the sugar output from the liver. Decreases insulin resistance. Helps muscle and fat cells use insulin.	<ol style="list-style-type: none"> <li>1. Does not cause low blood sugar.</li> <li>2. Does not cause weight gain.</li> <li>3. Lowers bad lipids (LDL and triglycerides).</li> </ol>	<ol style="list-style-type: none"> <li>1. Should not be used in patients with kidney problems, liver disease or heavy alcohol use.</li> <li>2. May cause side effects including anorexia, bloating, diarrhea. This usually gets better within 4-8 weeks.</li> <li>3. Low but real risk for lactic acidosis.</li> <li>4. Caution required in patients with congestive heart failure.</li> <li>5. May cause resumption of ovulation in anovulatory women.</li> </ol>
<b>Meglitinides</b>	<b>repaglinide</b> (Prandin™)	Increases insulin secretion	<ol style="list-style-type: none"> <li>1. Rapidly absorbed and rapidly eliminated</li> <li>2. Helps control post-prandial hyperglycemia.</li> <li>3. Dosing based on number of meals consumed.</li> </ol>	<ol style="list-style-type: none"> <li>1. May cause low blood sugars.</li> <li>2. Weight gain.</li> <li>3. Rarely, blood problems (thrombocytopenia, leukopenia, elevated hepatic enzymes).</li> <li>4. May increase ovulation.</li> </ol>
<b>D-phenylalanine derivatives</b>	<b>nateglinide</b> (Starlix®)	Increases insulin secretion	<ol style="list-style-type: none"> <li>1. Helps body put out quick, short bursts of insulin.</li> <li>2. Low risk of hypoglycemia.</li> <li>3. Dosing based on number of meals consumed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Low blood sugar (low risk)</li> <li>2. Weight gain.</li> <li>3. Caution required in patients with moderate liver disease.</li> </ol>
<b>First Generation Sulfonylureas</b>	<b>chlorpropamide</b> (Diabenese®) <b>tolazamide</b> (Tolinase®) <b>tolbutamide</b> (Orinase™)	Increases insulin secretion	<ol style="list-style-type: none"> <li>1. Lowers bad lipids (LDLs and triglycerides).</li> </ol>	<ol style="list-style-type: none"> <li>1. Low blood sugar levels.</li> <li>2. Weight gain.</li> <li>3. Many drug interactions.</li> <li>4. Reacts with alcohol.</li> <li>5. Water imbalances.</li> </ol>

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<b>Second Generation Sulfonyleureas</b>	<b>glipizide</b> (Glucotrol®, Glucotrol XI™) <b>glyburide</b> (Micronase®, Diabeta®, Glynase®) <b>glimepiride</b> (Amaryl®)	Increases insulin secretion. Questioned increase in target cell sensitivity to insulin (glimepiride).	1. Lowers bad lipids (LDLs and triglycerides).	1. Risk for low blood sugar levels. 2. Weight gain. 3. Sensitivity to sunlight (glyburide).
<b>Thiazolidine-diones</b>	<b>rosiglitazone</b> (Avandia®) <b>pioglitazone</b> (Actos™)	Increases response to insulin. Lowers sugar output from liver. Increases sugar uptake in muscle.	1. Lowers insulin requirements. 2. Increases HDL (good lipids). 3. Decreases triglycerides with pioglitazone.	1. Possible increased risk of heart failure. 2. May decrease the effect of birth control pills and may increase ovulation. 3. Insulin dose may need to be reduced. 4. May cause weight gain, anemia and edema. 5. Increased LDL with rosiglitazone. 6. Caution indicated in patients with hepatic disease, or with a history of alcohol abuse. 7. May contribute to hypoglycemia if used in combination with other diabetes medications.
<b>Incretin Enhancer</b>	<b>sitigliptin</b> (Januvia)	Increases the production and release of insulin from the pancreas after eating. Limits the release of glucose from the liver.	1. Improves blood sugar levels. 2. No increase in hypoglycemia when administered alone, with metformin or with pioglitazone.	1. May cause upper respiratory tract infection and headache, stomachache, nausea and diarrhea.
<b>Incretin Mimetic</b>	<b>exenatide</b> (Byetta)	Stimulates insulin secretion. Lowers sugar output from the liver. Slows stomach emptying. Increases feeling of fullness.	1. Improves blood sugar levels. 2. Decreases food intake.	1. Hypoglycemia is rare when taken with metformin, but may be linked with use of sulfonyleurea. 2. May cause nausea, vomiting and diarrhea.
<b>Synthetic form of Amylin</b>	<b>pramlintide</b> (Symlin)	Slows stomach emptying. Lowers sugar output from the liver. Increases feeling of fullness.	1. Improves blood sugar levels. 2. Decreases food intake.	1. Risk of low blood sugar levels. 2. May cause nausea.

**The Combination tablets have the actions, pros and cons of both agents.**