

## Medicines to Treat Diabetes

There are many medicines used to treat diabetes. They are used along with a healthy eating meal plan and activity. You and those on your health care team will choose which medicines are best for you.

Medicine Names	Key Points
<p><b>Biguanides</b> Examples:</p> <ul style="list-style-type: none"> <li>• Metformin (Glucophage<sup>®</sup>)</li> <li>• Metformin extended release (Glucophage XR<sup>®</sup>, Fortamet<sup>®</sup>, Glumetza<sup>®</sup>, Riomet<sup>®</sup>)</li> </ul>	<p>How they work:</p> <ul style="list-style-type: none"> <li>• Help muscle cells use glucose</li> <li>• Lower the amount of glucose your liver makes</li> <li>• Lower the amount of glucose your body absorbs from the food you eat</li> </ul> <p>Possible side effects:</p> <ul style="list-style-type: none"> <li>• Nausea or upset stomach</li> <li>• Diarrhea</li> <li>• Bloating</li> <li>• Decreased appetite</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>• Take with food to decrease side effects</li> <li>• Must swallow extended release tablets whole</li> <li>• May need to stop for surgery, certain scans or x-rays</li> <li>• Expected decrease in A1C: 1-2%</li> </ul>
<p><b>Sulfonylureas</b> Examples:</p> <ul style="list-style-type: none"> <li>• Glipizide (Glucotrol<sup>®</sup>)</li> <li>• Glipizide extended release (Glucotrol XL<sup>®</sup>)</li> <li>• Glimepiride (Amaryl<sup>®</sup>)</li> <li>• Glyburide (Diabeta<sup>®</sup>, Micronase<sup>®</sup>)</li> </ul>	<p>How they work:</p> <ul style="list-style-type: none"> <li>• Help your pancreas make more insulin</li> </ul> <p>Possible side effects:</p> <ul style="list-style-type: none"> <li>• Low blood sugar</li> <li>• Weight gain</li> <li>• Headache</li> <li>• Stomach upset</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>• Do not take if you will not be eating within 30 minutes</li> <li>• Avoid with sulfa allergy</li> <li>• Expected decrease in A1C: 1-2%</li> </ul>
<p><b>Meglitinides</b> Examples:</p> <ul style="list-style-type: none"> <li>• Repaglinide (Prandin<sup>®</sup>)</li> <li>• Nateglinide (Starlix<sup>®</sup>)</li> </ul>	<p>How they work:</p> <ul style="list-style-type: none"> <li>• Help the pancreas make more insulin right after you eat</li> </ul> <p>Possible side effects:</p> <ul style="list-style-type: none"> <li>• Low blood sugars</li> <li>• Weight gain</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>• Work best if you take before a meal</li> <li>• Expected decrease in A1C: 0.5-1.5%</li> </ul>

Medicine Names	Key Points
<p><b>Dipeptidyl Peptidase-4 (DPP-4) inhibitors</b></p> <p>Examples:</p> <ul style="list-style-type: none"> <li>• Saxagliptin (Onglyza<sup>®</sup>)</li> <li>• Sitagliptin (Januvia<sup>®</sup>)</li> <li>• Linagliptin (Tradjenta<sup>®</sup>)</li> <li>• Alogliptin (Nesina<sup>®</sup>)</li> </ul>	<p>How they work:</p> <ul style="list-style-type: none"> <li>• Raise the amount of insulin your body makes after you eat</li> <li>• Lower the amount of glucose your liver makes</li> </ul> <p>Possible side effects:</p> <ul style="list-style-type: none"> <li>• Nausea, vomiting, diarrhea</li> <li>• Acute pancreatitis</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>• Do not cause weight gain</li> <li>• Expected decrease in A1C: 0.4 – 0.8%</li> </ul>
<p><b>Thiazolidinediones (“TZDs”)</b></p> <p>Examples:</p> <ul style="list-style-type: none"> <li>• Pioglitazone (Actos<sup>®</sup>)</li> <li>• Rosiglitazone (Avandia<sup>®</sup>)</li> </ul>	<p>How they work:</p> <ul style="list-style-type: none"> <li>• Lower insulin resistance so that insulin can work better</li> <li>• Reduce glucose made by the liver</li> </ul> <p>Possible side effects:</p> <ul style="list-style-type: none"> <li>• Swelling</li> <li>• Weight gain/fluid retention</li> <li>• Risk of bladder cancer</li> <li>• Risk of bone fractures</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>• Should not be used in those with heart failure</li> <li>• Expected decrease in A1C: 0.5-1.4%</li> </ul>
<p><b>Alpha-Glucosidase Inhibitors</b></p> <p>Examples:</p> <ul style="list-style-type: none"> <li>• Acarbose (Precose<sup>®</sup>)</li> <li>• Miglitol (Glyset<sup>®</sup>)</li> </ul>	<p>How they work:</p> <ul style="list-style-type: none"> <li>• Slow the break down of sugars in the body</li> </ul> <p>Possible side effects:</p> <ul style="list-style-type: none"> <li>• Gas, bloating, diarrhea</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>• Does not cause weight gain</li> <li>• Must treat low blood sugar with oral glucose (dextrose), not sucrose (cane sugar)</li> <li>• Expected decrease in A1C: 0.5-1%</li> </ul>
<p><b>Sodium-glucose transporter 2 (SGLT2) Inhibitor</b></p> <p>Examples:</p> <ul style="list-style-type: none"> <li>• Canagliflozin (Invokana<sup>®</sup>)</li> <li>• Dapagliflozin (Farxiga<sup>®</sup>)</li> <li>• Empagliflozin (Jardiance<sup>®</sup>)</li> <li>• Ertugliflozin (Steglatro<sup>®</sup>)</li> </ul>	<p>How they work:</p> <ul style="list-style-type: none"> <li>• Help remove glucose from the body through the urine</li> </ul> <p>Possible side effects:</p> <ul style="list-style-type: none"> <li>• Fungal infection in female groin</li> <li>• Urinary tract infection</li> <li>• Increased urination</li> <li>• Diabetic ketoacidosis (with normal or nearly normal blood glucose levels)</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>• Take before the first meal of the day</li> <li>• Expected decrease in A1C: 0.5-1%</li> </ul>

### Non-Insulin Injectable Medicines

<p><b>Amylin Mimetics</b> Examples:</p> <ul style="list-style-type: none"> <li>• Pramlintide (Symlin<sup>®</sup>)</li> </ul>	<p>How they work:</p> <ul style="list-style-type: none"> <li>• Slow how fast the stomach empties</li> <li>• Lower the amount of glucose the liver makes</li> </ul> <p>Side effects:</p> <ul style="list-style-type: none"> <li>• Low blood sugars</li> <li>• Decreased appetite</li> <li>• Redness and irritation at injection site</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>• May suppress hunger</li> <li>• Must use right before meals</li> <li>• Can be used in Type 1 DM</li> <li>• Expected decrease in A1C: 0.4-0.6%</li> </ul>
<p><b>GLP-1 Receptor Agonists</b> Examples:</p> <ul style="list-style-type: none"> <li>• Exenatide (Byetta<sup>®</sup>)</li> <li>• Exenatide extended release (Bydureon BCise<sup>®</sup>)</li> <li>• Liraglutide (Victoza<sup>®</sup>)</li> <li>• Dulaglutide (Trulicity<sup>®</sup>)</li> <li>• Semaglutide (Ozempic<sup>®</sup>, Rybelsus<sup>®</sup>)</li> </ul>	<p>How they work:</p> <ul style="list-style-type: none"> <li>• Help the pancreas to make more insulin</li> <li>• Lowers the amount of glucose the liver makes</li> </ul> <p>Potential side effects:</p> <ul style="list-style-type: none"> <li>• Nausea, vomiting</li> <li>• Weight loss</li> <li>• Decreased appetite</li> <li>• Redness and irritation at injection site</li> </ul> <p>Notes:</p> <ul style="list-style-type: none"> <li>• May cause pancreatitis</li> <li>• Not advised for those with personal or family history of medullary thyroid cancer</li> <li>• Expected decrease in A1C: 1-1.6%</li> </ul>

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright ©5/2021. University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#6264.