

Diabetes Medications

Many of these medicines may interact with other medicines –
be sure to let your health care provider know ALL medications that you are taking

(This does not include insulin - See DNE insulin education packet)

Sulfonylureas/Insulin Secretagogues

Increase insulin secretion from the pancreas.

Expected decrease in HbA1c with Monotherapy from this drug class: 1 - 2%

| Brand Name (Generic Name) | Dose Range | When to Take | Considerations |
|--|---|--|---|
| Micronase® , Glynase® , DiaBeta® (glyburide) | 1.25 - 20 mg/day | 1-2 times a day with meals | <ul style="list-style-type: none"> Do not crush or break Glucotrol™ XL pills <p>Possible side effects</p> <ul style="list-style-type: none"> Weight gain Hypoglycemia <p>Warnings/Precautions</p> <ul style="list-style-type: none"> May cause prolonged hypoglycemia in elderly patients or those with kidney or liver disease Do not take if you skip a meal |
| Glucotrol® (glipizide) | 2.5 - 40 mg/day (Max single dose 15 mg) | 1-2 times a day, 30 minutes before a meal | |
| Glucotrol® XL (long-acting glipizide) | 2.5 - 20 mg/day | Take once a day with breakfast Swallow extended release product whole; do not split or divide | |
| Amaryl® (glimepiride) | 1 - 8 mg/day | Take once a day with a meal | |

Meglitinides (glinides)/short-acting Insulin Secretagogues

These medications are similar to sulfonylureas (increase insulin secretion from the pancreas) but are shorter acting to cover mealtimes.

Expected decrease in HbA1c with Monotherapy from this drug class: 0.5 – 1.5%

| Brand Name (Generic Name) | Dose Range | When to Take | Considerations |
|-------------------------------|--|--------------------------------------|--|
| Starlix® (nateglinide) | 60 -120 mg three times daily | Take within 30 minutes before a meal | <p>Possible side effects</p> <ul style="list-style-type: none"> Weight gain Hypoglycemia Gastrointestinal upset, headache, upper respiratory infection, and back pain are less common side effects Do not take if you skip a meal |
| Prandin® (repaglinide) | 0.5 - 4 mg with each meal. 16 mg total daily maximum. | | |

Alpha Glucosidase Inhibitors

Slow the digestion of carbohydrates (starches), which decreases post-meal blood glucose.
Expected decrease in HbA1c with Monotherapy from this drug class: 0.5 – 0.8%

| Brand Name (Generic Name) | Dose Range | When to Take | Considerations |
|------------------------------|---------------------------------------|---|--|
| Precose® (acarbose) | 25 - 100 mg taken 3 times daily | Take with the first bite of each main meal | <ul style="list-style-type: none"> • Weight Neutral • A low carbohydrate diet will help minimize GI symptoms Possible side effects <ul style="list-style-type: none"> • Passing gas/flatulence • Feeling bloated • Abdominal discomfort • Diarrhea • Oral glucose (dextrose) should be used instead of sucrose for treatment of hypoglycemia |
| Glyset® (miglitol) | | | |

DPP- 4 Inhibitors

Stimulate the release of insulin, especially after a meal.
Stops working when blood glucose is normal. Decreases glucose production in the liver.
Expected decrease in HbA1c with Monotherapy from this drug class: 0.4 – 0.9%

| Brand Name (Generic Name) | Dose Range | When to Take | Considerations |
|---------------------------------|---------------------|---------------------------------|--|
| Januvia® (sitagliptin) | 25 - 100 mg/day | Once a day with or without food | <ul style="list-style-type: none"> • Weight Neutral Possible side effects <ul style="list-style-type: none"> • Stuffy/runny nose, sore throat, upper respiratory infection, headache, stomach discomfort and diarrhea, UTI (with Onglyza only) Warnings/Precautions <ul style="list-style-type: none"> • Risk of hypoglycemia if <u>combined</u> with an insulin secretagogue • With impaired kidney function • May be associated with pancreatitis |
| Onglyza® (saxagliptin) | 2.5 - 5 mg/day | | |
| Tradjenta® (linagliptin) | 5 mg/day | | |
| Nesina® (alogliptin) | 6.25 - 25 mg/day | | |

| Insulin Sensitizers (Thiazolidinediones) Makes cells more sensitive to insulin. Expected decrease in HbA1c with Monotherapy from this drug class: 0.5 – 1.4% | | | |
|---|----------------|--|---|
| Brand Name (Generic Name) | Dose Range | When to Take | Considerations |
| Actos® (pioglitazone) | 15 - 45 mg/day | Once a day, same time every day, with or without food | <ul style="list-style-type: none"> May take 6 -12 weeks to reach full effect Possible side effects <ul style="list-style-type: none"> Weight gain Fluid retention Warnings/Precautions <ul style="list-style-type: none"> May cause or worsen heart failure |
| Avandia® (rosiglitazone) | 4 - 8 mg/day | Once or twice a day, same time every day, with or without food | <ul style="list-style-type: none"> Avandia may increase your risk of other heart problems that occur when there is reduced blood flow to the heart (e.g., with angina or heart attack), especially in patients taking nitrates or insulin Caution with liver disease Caution if history of bladder cancer May cause increased risk of fracture in women |

| SGLT-2 Inhibitors Prevent the reabsorption of glucose in the kidneys. Excess glucose is removed from the blood as a result of increased glucose in the urine. Expected decrease in HbA1c with Monotherapy from this drug class: 0.7 – 1.0% | | | |
|--|-------------------|---|--|
| Brand Name (Generic Name) | Dose Range | When to Take | Considerations |
| Invokana® (canagliflozin) | 100 or 300 mg/day | Once/day before the first meal of the day | <ul style="list-style-type: none"> For T2DM Associated with weight loss Possible side effects: <ul style="list-style-type: none"> Weight loss Genital yeast infections (of the vagina or penis), urinary tract infections Can reduce blood pressure (& cause low blood pressure when standing - aka "orthostatic hypotension") Increased urination Dehydration Warnings/Precautions <ul style="list-style-type: none"> Risk of hypoglycemia if combined with an insulin secretagogue or insulin With impaired kidney function (health care provider to assess and monitor eGFR) - Monitor potassium levels if impaired kidneys Be aware that there is "sugar" in your urine – this will show up on a urine test as elevated glucose Dose-related increase in LDL Possible increased risk of hyperkalemia SGLT-2s may affect bone health In studies of Farxiga there is a possibly of a slight increased risk of bladder cancer Ketoacidosis Lower limb amputation (with canagliflozin) |
| Farxiga® (dapagliflozin) | 5 or 10 mg/daily | | |
| Jardiance® (empagliflozin) | 10 - 25 mg/daily | | |
| Steglatro® (ertugliflozin) | 5 or 15 mg/daily | | |

| <h3>Biguanides</h3> <p>Decrease glucose production from the liver and increases insulin sensitivity. Expected decrease in HbA1c with Monotherapy from this drug class: 1.0 – 2.0%</p> | | | |
|---|---|-----------------|--|
| Brand Name (Generic Name) | Dose Range | When to Take | Considerations |
| Glucophage® (metformin) | 500 – 2,550 mg/day (max dose is 2000 mg/day if taking long acting) | With Meals | <ul style="list-style-type: none"> You may not experience the full effect for about 2 weeks Possible side effects <ul style="list-style-type: none"> Nausea, bloating, diarrhea, metallic taste, Vitamin B12 and/or folic acid deficiency Take with food to minimize risk of diarrhea and nausea - tell your health care provider if these symptoms do not go away Warnings/Precautions <ul style="list-style-type: none"> If you drink alcohol, have kidney or liver disease or congestive heart failure, ask your health care provider about the safety of taking metformin Talk with your healthcare provider about discontinuing metformin prior to certain medical procedures May interact with cimetidine (Tagamet) Lactic acidosis is a rare, but serious complication that can occur during treatment with Metformin. Caution if decreased kidney function or CHF. Caution if elderly, debilitated |
| Glucophage® XR, Glumetza (metformin long-acting) | | | |
| Riomet® (liquid metformin) | | | |

| <h3>Dopamine Receptor Agonist</h3> <p>Cause a reduction in post-meal plasma glucose levels due to enhanced suppression of hepatic (liver) glucose production (gluconeogenesis). Also lowers fasting and after meal plasma free fatty acid and triglyceride levels. Expected decrease in HbA1c with Monotherapy from this drug class: 0.3 - 0.7%</p> | | | |
|---|----------------------------|---|--|
| Brand Name (Generic Name) | Dose Range | When to Take | Considerations |
| Cycloset® (bromocriptine mesylate) | 0.8 mg daily Max 4.8 mg | Take within 2 hours of waking with the first meal of the day. Take approximately the same time each day. | <ul style="list-style-type: none"> Possible side effects <ul style="list-style-type: none"> Drowsiness/fatigue Nausea/vomiting Diarrhea/constipation Heartburn Headache Dizziness Low blood pressure May exacerbate (worsen) certain types of psychotic disorders |

Injectable Medications for Diabetes

Incretin Mimetics (or *GLP-1 receptor agonists*) act like gut hormones which slow digestion. Helps pancreas release insulin in response to elevated blood sugar after a meal. Decreases glucose production in the liver. Increases mealtime fullness. Expected decrease in HbA1c with Monotherapy from this drug class: 1.0%

| Brand Name (Generic Name) | Dose Range | When to Take | Considerations |
|--|---|--|---|
| Byetta® (exenatide) | 5 - 10 mcg twice/day | 2 times a day, 60 minutes or less before breakfast and dinner (do not take after a meal) – injections must be at least 6 hrs apart | <ul style="list-style-type: none"> • May have a small bump (nodule) at the injection site with Bydureon • Associated with weight loss <p>Possible side effects</p> <ul style="list-style-type: none"> • Most common SE include nausea, vomiting, decreased appetite, diarrhea, feeling jittery, dizziness, headache <p>Warnings/Precautions</p> <ul style="list-style-type: none"> • Exenatide has been associated with acute pancreatitis • Avoid with history of pancreatitis, gallstones • Avoid if history of Medullary Thyroid carcinoma or MEN 2 syndrome • Caution with history of alcoholism, high blood triglyceride levels, gastroparesis, kidney problems, including kidney failure • Increased risk of hypoglycemia w/ insulin or sulfonylurea use • Use caution in patients with, or at risk of developing, cardiac conduction system abnormalities (Trulicity) <p>Report to your healthcare provider</p> <ul style="list-style-type: none"> • new lump or swelling in the neck, pain in the front of the neck, persistent cough, persistent change in voice like hoarseness, or difficulty swallowing or breathing • difficulty urinating, change in urine • severe abdominal pain, severe back pain, severe nausea, vomiting, weight gain • signs of low blood sugar • vision changes |
| Bydureon® (exenatide extended-release for injectable suspension) | 2 mg once/week | Once every seven days (weekly), at any time of day - with or without meals | |
| Tanzeum® (albiglutide) | 30 - 50 mg once weekly | Once every seven days (weekly), at any time of day - with or without meals | |
| Trulicity® (dulaglutide) | 0.75 - 1.5 mg once weekly | Once every seven days (weekly), at any time of day - with or without meals | |
| Victoza® (liraglutide) | 0.6 mg/day x 1 wk (then increase to 1.2 mg/day, and if needed 1.8 mg/day) | Once daily injection given any time of day independent of meals. | |
| Ozempic® (semaglutide) | 0.25 mg once weekly for 4 weeks, then increase to 0.5 mg; max of 1 mg once/week | Once weekly injection with or without food | |
| Adlyxin® (lixisenatide) | Initial dose: 10 mcg once daily for 14 days, then 20 mcg once daily | Once daily injection within one hour before the first meal of the day, preferably before the same meal each day | |

Amylin Analogues

Slow gastric emptying, decrease glucose production in the liver and increase mealtime fullness. Expected decrease in HbA1c with Monotherapy from this drug class: 0.2% - 1.0%

| Brand Name (Generic Name) | Dose Range | When to Take | Considerations |
|---|-------------------|--|--|
| Symlin® (pramlintide acetate) | 15 – 120 mcg/ day | Before meals, up to 3 times daily Used by people with T1DM or T2DM who already use mealtime insulin but need better control | <ul style="list-style-type: none"> • Reduce insulin by 50% when starting pramlintide <p>Possible side effects</p> <ul style="list-style-type: none"> • Nausea, decreased appetite, vomiting, stomach pain, tiredness, dizziness, or indigestion • Hypoglycemia is usually seen within 3 hrs after Symlin injection <p>Warnings/Precautions</p> <ul style="list-style-type: none"> • Avoid if patient has gastroparesis or hypoglycemia unawareness • Avoid use if recent recurrent hypoglycemia |

| Combination Drugs | | | |
|---|---|---|---|
| Brand Name (Generic Name) | Dose Range | When to Take | Considerations |
| Actoplus Met® (pioglitazone/metformin) | 15 mg/500 mg - 15 mg/850 mg once or twice daily Once daily for extended release | With meals Swallow extended release product whole; do not split or divide | Refer to individual medications listed previously |
| Avandamet® (rosiglitazone/metformin) | 2/500 mg - 8/2,000 mg/ day | With meals | |
| Duetact® (pioglitazone/glimepiride) | 30 mg/2 mg 30 mg/4 mg } once daily | With the first meal of the day: may need to hold medication if skipping meal | |
| Glucovance® (glyburide/metformin) | 1.25/250 mg - 20/2,000 mg/ day | With meals: may need to hold medication if skipping meal | |
| Glyxambi® (empagliflozin/linagliptin) | 10mg/5mg 25mg/5mg | Without regard to meals | |
| Invokamet® (canagliflozin/metformin) | 100 mg/1000 mg Max 300 mg/2000 mg Once daily for extended release Twice daily for immediate release | With meals Swallow extended release product whole: do not split or divide | |
| Janumet® (sitagliptin/metformin) | 50/500 mg - 100/2,000 mg/ day | With meals | |
| Jentadueto® (linagliptin/metformin) | 2.5 mg/500 mg 2.5 mg/850 mg 2.5 mg/1000 mg } Twice daily | With meals | |
| Jentadueto® XR (linagliptin/metformin XR) | 2.5 mg/1000 mg 2 tabs once daily 5 mg/1000 mg 1 tab once daily | With the first meal of the day Swallow whole; Do not split or divide tablet | |
| Kazano® (alogliptin/metformin) | 12.5/500 mg 12.5/1,000 mg | With meals Swallow whole; Do not split or divide tablet | |
| Kombiglyze® XR (saxagliptin/metformin XR) | 5 mg/500 mg 5 mg/1000 mg 2.5 mg/1000 mg | With meals Swallow whole; Do not split or divide tablet | |
| Oseni® (alogliptin & pioglitazone) | 12.5 - 25 mg/15 mg, 12.5 - 25 mg/30 mg, 12.5 - 25 mg/45 mg } Once daily | Without regard to meals Swallow whole; Do not split or divide tablet | |
| PrandiMet® (repaglinide/metformin) | Maximum single dose: Repaglinide 4 mg/metformin 1,000 mg; Maximum daily dose: Repaglinide 10 mg/metformin 2,500 mg/day | Take up to 30 minutes prior to meals; hold dose if meal is skipped | |
| Qtern® (dapagliflozin/saxagliptin) | 10 mg/5 mg once daily | Without regard to meals Swallow whole; Do not split or divide tablet | |

| Combination Drugs (Cont.) | | | |
|--|---|--|---|
| Brand Name (Generic Name) | Dose Range | When to Take | Considerations |
| Steglujan® (ertugliflozin/sitagliptin) | 5 mg/100 mg 15 mg /100 mg once daily | Without regard to meals | Refer to individual medications listed previously |
| Synjardy® (empagliflozin/metformin) | 5 mg/500 mg 12.5 mg/500 mg 12.5 mg/1000 mg 5 mg/ 1000 mg XR 10 mg/1000 mg XR 12.5 mg/ 1000 mg XR 25 mg/1000 mg XR Once daily for extended release Twice daily for immediate release | With meals Extended release tablets should not be split, crushed, chewed or dissolved | |
| Xigduo® XR (dapagliflozin/metformin) | 2.5 mg/1000 mg 5 mg/500 mg 5 mg/1000 mg 10 mg/500 mg 10 mg/1000 mg Take once daily | With the first meal of the day Swallow tablets whole; do not crush, cut or chew | |

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Resources: Lexicomp 2018, Guideline Central 2018, UpToDate 2018, Canadian Diabetes Association 2016, Individual drug company websites 2018

