

Treat Diabetes

Chapter 7

Diabetes Medicines

You Will Learn About:

1. What your diabetes medicines do
2. Your diabetes medicines
3. Who can help with your diabetes medicines if needed

1. What Diabetes Medicines Do

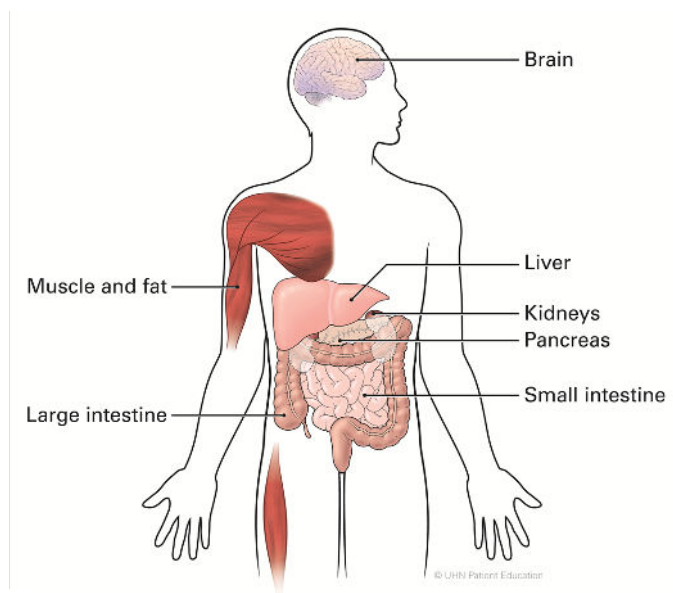
Your diabetes medicines are important for your health. Take your medicines as prescribed by your doctor.

Your diabetes medicines help:

- Manage and improve your blood sugar

Each class of medicine works on a different part of your body (organs, muscle and fat) to lower your blood sugar. Diabetes medicines can:

- Tell your pancreas to produce more insulin
- Provide extra insulin when your pancreas cannot make anymore
- Make the cells in your body more sensitive to insulin
- Slow the speed your body digests sugar
- Help your liver make less sugar
- Tell your kidneys to release more sugar in your urine (pee)



The human body. Diabetes medicines work on different parts of the body including the liver, kidneys, pancreas, intestines, muscle and fat.

When you take your medicines as prescribed by your doctor, they help avoid or delay the onset of serious health problems. These health problems are known complications from diabetes, and include heart attack, stroke, kidney failure, loss of vision, ulcers or amputation.

Your doctor and pharmacist will work with you to ensure your medicines are working for you. They will check your medicines over time to ensure they still work for you.

2. Your Diabetes Medicine

Find your medicine

This section will provide information about your medicines. You will need the name of your diabetes medicine(s) for this section. There are many types of diabetes medicines. Each type is unique and works in its own way within your body. The University Health Network Diabetes, Exercise & Healthy Lifestyle Program does not promote one type of medicine over another. Brand names of diabetes medicines are listed to provide you with examples. The information listed is for education purposes only. Talk to your doctor and pharmacist to find the right medicine(s) for you.

Metformin (Glucophage™ or Glumetza™)

What is it and how does it work?

This medicine is from the Biguanides class of medicines. This class of medicine helps your liver make less sugar. This medicine will lower your blood sugar level. This medicine also helps make your body respond better to insulin (improve insulin sensitivity).

Metformin lowers your A1c level. It is expected to lower your A1c by 1 to 1.5 percent (%).

Side effects and your role

Every medicine has side effects. People tend to react in diverse ways to the same medicine. Side effects of Metformin often start within the first few weeks. The most common side effects of Metformin are:

- Nausea (upset stomach)
- Diarrhea
- Gas
- Bloating
- Metal taste in your mouth
- Vitamin B12 Deficiency

Your role:

- Take metformin with food. Taking metformin with food will lower your chance of side effects
- Tell your doctor if you have kidney or liver problems
- Metformin may be a safety risk for tests such as imaging tests using dyes or for surgeries. Confirm if you should stop taking your metformin for tests or surgeries
- Talk to your doctor if you have questions about your medicine

Acarbose (Prandase™ or Glucobay™)

What is it and how does it work?

This medicine is from the Alpha-glucosidase inhibitors class. This class of medicine slows the speed your body digests sugar. This medicine slows how fast sugar enters your blood.

Acarbose lowers your A1c level. It is expected to lower your A1c by 0.6 percent (%).

Side effects and your role

Every medicine has side effects. People tend to react in diverse ways to the same medicine. The common side effects of Acarbose are:

- Nausea (upset stomach)
- Diarrhea
- Gas
- Bloating

Your role:

- Take Acarbose with the first bite of your meal. Taking Acarbose with the first bite of your meal allows the medicine work while you eat the rest of your meal. Do not take Acarbose if you do not eat
- Do not take Acarbose if you have an intestinal disease (e.g., inflammatory bowel disease). Taking this medicine could make your disease worse. Tell your doctor if you have an intestinal disease
- Talk to your doctor if you have questions about your medicine

Pioglitazone (Actos™)

What is it and how does it work?

This medicine is part of the Thiazolidinediones class (TZDs). This class of medicine makes your body more sensitive to insulin. This medicine also helps your liver make less sugar.

This medicine lowers your A1c level. It is expected to lower your A1c by 0.8 percent (%).

Side effects and your role

Every medicine has side effects. People tend to react in diverse ways to the same medicine. The common side effects of Pioglitazone are:

- Fluid collects in your body, this is called fluid retention
- Swelling
- Weight gain
- Shortness of breath

Your role:

- Talk to your doctor if you have liver problems. This medicine may impact your liver
- Do not take this medicine if you:
 - Have heart failure
 - Have or had bladder cancer
 - Have a high risk of breaking bones (fractures)
 - Are a women who can have children (about ages 14-55)
- Talk to your doctor if you have questions about your medicine

Rosiglitazone (Avandia™)

What is it and how does it work?

This medicine is part of the Thiazolidinediones class (TZDs). This class of medicine makes your body more sensitive to insulin. This medicine also helps your liver make less sugar.

This medicine lowers your A1c level. It is expected to lower your A1c by 0.8 percent (%).

Side effects and your role

Every medicine has side effects. People have diverse side effects from the same medicine. The common side effects of Rosiglitazone are:

- Buildup of fluid in your body, this is called fluid retention
- Swelling
- Weight gain
- Shortness of breath

Your role:

- Talk to your doctor if you have liver problems
- Rosiglitazone (Avandia) increases your risk of serious heart problems. These include:
 - Heart failure (fluid may collect in your lungs, ankles, lower legs and belly as a result of heart failure)
 - Angina (for example, chest pain)
 - Heart attack

- Do not take this medicine if you:
 - Have heart failure
 - Have bladder cancer
 - Have a high risk of breaking bones (fractures)
 - Are a woman who can have children (about ages 14-55)
- Talk to your doctor if you have questions about your medicine

Liraglutide (Victoza™)

What is it and how does it work?

This medicine is part of the GLP-1 class (Incretin Agent). This class of medicine makes your pancreas produce more insulin when you eat. This medicine also slows down your stomach from emptying food into your intestine when you digest. This helps you feel full longer. You may notice weight loss with this medicine. Liraglutide helps your liver make less sugar too.

You will inject yourself with a needle to take Liraglutide.

Liraglutide lowers your A1c level. This medicine is expected to lower your A1c by 0.7 percent (%).

Side effects and your role:

All medicines have side effects. People have diverse side effects from the same medicine. The most common side effects of Liraglutide are:

- Nausea (upset stomach)
- Feeling full when you eat
- Irritation of your pancreas (pancreatitis) causing severe stomach pain

Your role:

- Talk to your doctor if you have kidney problems
- Do not take Liraglutide if you or your family have a history of:
 - Thyroid cancer
 - Glandular tumours
- Talk to your doctor if you have questions about your medicine

Exenatide (Byetta™)

What is it and how does it work?

This medicine is part of the GLP-1 class (Incretin Agent). This class of medicine makes your pancreas produce more insulin when you eat. This medicine also slows down your stomach from emptying food into your intestine when you digest. This helps you feel full longer. You may notice weight loss with this medicine. Exenatide helps your liver make less sugar too.

You will inject yourself with a needle to take Exenatide.

Exenatide lowers your A1c level. It is expected to lower your A1c by 0.7 percent (%).

Side effects and your role:

All medicines have side effects. People have diverse side effects from the same medicine. The common side effects of Exenatide are:

- Nausea (upset stomach)
- Feeling full when you eat
- Irritation of your pancreas (pancreatitis) causing severe stomach pain

Your role:

- Talk to your doctor if you have kidney problems
- Do not take Exenatide if you or your family have a history of:
 - Thyroid cancer
 - Glandular tumours
- Talk to your doctor if you have questions about your medicine

Sitagliptin (Januvia™)

What is it and how does it work?

This medicine is part of the DPP-4 Inhibitors class (Incretin Agent). This class of medicine helps raise your insulin level after you eat. This medicine also helps lower the sugar made by your body. As a result, Sitagliptin helps manage your blood sugar.

Sitagliptin can be used with other medicines to help their effects. Medicines like Exenatide (Byetta) or Liraglutide (Victoza) can be used with Sitagliptin. Sitagliptin will make the effects of the other medicines last longer.

Sitagliptin lowers your A1c level. This medicine is expected to lower your A1c by 0.5 to 0.8 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. The most common side effects of Sitagliptin are:

- Chest infection
- Stuffy or runny nose
- Sore throat

- Headache
- Severe joint pain
- Irritation of your pancreas (pancreatitis) causing severe stomach pain

Your role:

- Take your medicine at the same time every day
- Tell your doctor if you have kidney or liver problems
- Talk to your doctor if you have questions about your medicine

Saxagliptin (Onglyza™)

What is it and how does it work?

This medicine is part of the DPP-4 Inhibitors class (Incretin Agent). This class of medicine helps raise your insulin after you eat. This medicine also helps lower the sugar made by your body. As a result, Saxagliptin helps manage your blood sugar.

Saxagliptin can be used with other medicines to help their effects. Medicines like Exenatide (Byetta) or Liraglutide (Victoza) can be used with Saxagliptin. Saxagliptin will make the effects of the other medicines last longer.

Saxagliptin lowers your A1c level. This medicine is expected to lower your A1c by 0.5 to 0.8 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. The common side effects of Saxagliptin are:

- Chest infection

- Stuffy or runny nose
- Sore throat
- Headache

Your role:

- Take your medicine at the same time every day
- Tell your doctor if you have kidney or liver problems
- Talk to your doctor if you have questions about your medicine

Linagliptin (Trajenta™)

What is it and how does it work?

This medicine is part of the DPP-4 Inhibitors class (Incretin Agent). This class of medicine helps raise your insulin after you eat. This medicine also helps lower the sugar made by your body. As a result, Linagliptin helps manage your blood sugar.

Linagliptin can be used with other medicines to help their effects. Medicines like Exenatide (Byetta) or Liraglutide (Victoza) can be used with Linagliptin. Linagliptin will make the effects of the other medicines last longer.

Linagliptin lowers your A1c level. This medicine is expected to lower your A1c by 0.5 to 0.8 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. The common side effects of Linagliptin are:

- Chest infection

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- Stuffy or runny nose
- Sore throat
- Headache

Your role:

- Take your medicine at the same time every day
- Tell your doctor if you have liver problems
- Talk to your doctor if you have questions about your medicine

Sulfonylureas: Glyburide (Diabeta™ or Glynase™), Glipizide (Glucotrol™), Gliclazide (Diamicron™) or Glimepiride (Amaryl™)

What is it and how does it work?

This medicine is part of the **Secretagogue class**. This class of medicine tells your pancreas to produce insulin for hours after your meals.

Sulfonylureas lower your A1c level. This medicine is expected to lower your A1c by 0.7 to 0.9 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. The common side effects of Sulfonylureas are:

- **Low blood sugar (hypoglycemia)**
- Weight gain

Your role:

- Take this medicine when you eat

- Do not take this medicine without food
- Only take this medicine if you are eating normally
 - **If you take this medicine without eating your risk of a low blood sugar (hypoglycemia) is higher**
- Avoid low blood sugar by:
 - Checking your blood sugar often
 - Checking your blood sugar before you drive
 - Checking your blood sugar before and after you exercise
 - Always carry a fast acting carbohydrate with you (such as sugar tablets, juice or pop). Fast acting carbohydrates raise your blood sugar quickly. Eat a fast-acting carbohydrate if your blood sugar is low
- Talk to your doctor if you are taking antibiotics. Sulfonylureas can cause low blood sugar if you are taking sulfa-antibiotics. Use this medicine with caution
- Talk to your doctor if you have kidney problems
- Talk to your doctor if you have questions about this medicine

Meglitinides: Repaglinide (Gluconorm™)

What is it and how does it work?

This medicine is part of the Secretagogue class. This class of medicine tells your pancreas to produce insulin for hours after your meals.

Meglitinides lower your A1c level. This medicine is expected to lower your A1c by 0.7 to 0.9 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the

same medicine. The most common side effects of Meglitinides are:

- Low blood sugar (hypoglycemia)
- Weight gain

Your role:

- Take this medicine when you eat. Do not take this medicine without food. If you take this medicine without eating your risk of a low blood sugar (hypoglycemia) is higher
- Avoid low blood sugar by:
 - Checking your blood sugar often
 - Checking your blood sugar before you drive.
 - Checking your blood sugar before and after you exercise
 - Always carry a fast acting carbohydrate with you (such as sugar tablets, juice or pop). Fast acting carbohydrates raise your blood sugar quickly. Eat a fast-acting carbohydrate if your blood sugar is low
- Talk to your doctor if you are taking sulfa-antibiotics or Plavix (Clopidogrel). Meglitinide medicine can cause low blood sugar if you are also taking sulfa-antibiotics or Plavix (Clopidogrel)
- Talk to your doctor if you have kidney problems
- Talk to your doctor if you have questions about your medicine

Canagliflozin (Invokana™)

What is it and how does it work?

This medicine is part of the SGLT-2 Inhibitor (Gliflozins) class. This class of medicine tells your kidneys to release more sugar in your urine (pee). As a result, Canagliflozin lowers your blood sugar levels.

Canagliflozin lowers your A1c level. This medicine is expected to lower your A1c by 0.5 to 1 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. The most common side effects of Canagliflozin are:

- Urinating (peeing) more often
- Dehydration (your body does not have enough water)
- Low blood pressure
- Infection on your groin
- Risk of breaking bones (fractures)
- Higher LDL (bad) cholesterol levels

Your role:

- Do not take this medicine if you have kidney problems
- Stop this medicine if you are ill (with a cold or infection) to prevent a very serious health problem (ketoacidosis)
- Talk to your doctor if you have questions about your medicine

Dapagliflozin (Forxiga™)

What is it and how does it work?

This medicine is part of the SGLT-2 Inhibitor (Gliflozins) class. This class of medicine tells your kidneys to release more sugar in your urine (pee). As a result, Dapagliflozin lowers your blood sugar levels.

Dapagliflozin lowers your A1c level. This medicine is expected to lower your A1c by 0.5 to 1 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. The side effects of Dapagliflozin are:

- Urinating (peeing) more often
- Dehydration (your body does not have enough water)
- Low blood pressure
- Infection on your groin
- Risk of breaking bones (fractures)
- Higher LDL (bad) cholesterol levels

Your role:

- Do not take this medicine if you have kidney problems
- Dapagliflozin affects your bladder. Tell your doctor if you or your family had bladder cancer
- Stop this medicine if you are ill (with a cold or infection) to prevent a very serious health problem (ketoacidosis)
- Talk to your doctor if you have questions about your medicine

Empagliflozin (Jardiance™)

What is it and how does it work?

This medicine is part of the SGLT-2 Inhibitor (Gliflozins) class. This class of medicine tells your kidneys to release more sugar in your urine (pee). As a result, Empagliflozin lowers your blood sugar level.

Empagliflozin lowers your A1c level. This medicine is expected to lower your A1c by 0.5 to 1 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. The most common side effects of Empaglifozin are:

- Urinating (peeing) more often
- Dehydration (your body does not have enough water)
- Low blood pressure
- Infection on your groin
- Risk of breaking bones (fractures)
- Higher LDL (bad) cholesterol levels

Your role:

- Do not take this medicine if you have kidney problems.
- Stop this medicine if you are ill (with a cold or infection) to prevent a very serious health problem (ketoacidosis)
- Talk to your doctor if you have questions about your medicine

Insulin Injections

Glulisine (Apidra™)

What is it and how does it work?

This medicine is part of the Insulin class. Glulisine is a “rapid-acting” form of insulin. “Rapid-acting” means it works quickly to give you insulin. Glulisine will take effect in 15 to 30 minutes. This medicine is most effective between 30 minutes and 2.5 hours.

When taken, Glulisine provides extra insulin to your body. Extra insulin is needed when your pancreas cannot make enough. Glulisine helps lower

sugar released from your liver. This medicine also helps your body store sugar from your blood. As a result, this medicine works to lower your blood sugar.

Glulisine lowers your A1c level. This medicine is expected to lower your A1c by 0.9 to 1.1 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. The most common side effects of Glulisine are:

- **Low blood sugar (hypoglycemia)**
- Weight gain
- Low potassium (a mineral in your body)

Your role:

- Avoid low blood sugar by:
 - Checking your blood sugar often
 - Checking your blood sugar before you drive
 - Checking your blood sugar before and after you exercise
 - Always carry a fast acting carbohydrate with you (such as sugar tablets, juice or pop). Fast acting carbohydrates raise your blood sugar quickly. Eat a fast-acting carbohydrate if your blood sugar is low
- Talk to your doctor if you have questions about this medicine

Lispro (Humalog™)

What is it and how does it work?

This medicine is part of the Insulin class. Lispro is a “rapid-acting” form of insulin. “Rapid-acting” means it works quickly to give you insulin. Lispro will

take effect in 15 to 30 minutes. This medicine is most effective between 30 minutes and 2.5 hours.

When taken, Lispro provides extra insulin to your body. Extra insulin is needed when your pancreas cannot make enough. Lispro helps lower sugar released from your liver. This medicine also helps your body store sugar from your blood. As a result, Lispro helps lower your blood sugar.

Lispro lowers your A1c level. This medicine is expected to lower your A1c by 0.9 to 1.1 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. The most common side effects of Lispro are:

- **Low blood sugar (hypoglycemia)**
- Weight gain
- Low potassium (a mineral in your body)

Your role:

- Avoid low blood sugar by:
 - Checking your blood sugar often
 - Checking your blood sugar before you drive
 - Checking your blood sugar before and after you exercise
 - Always carry a fast acting carbohydrate with you (such as sugar tablets, juice or pop). Fast acting carbohydrates raise your blood sugar quickly. Eat a fast-acting carbohydrate if your blood sugar is low
- Talk to your doctor if you have questions about your medicine.

Aspart (NovoRapid™ or Novolog™)

What is it and how does it work?

This medicine is part of the Insulin class. Aspart is a “rapid-acting” form of insulin. “Rapid-acting” means it works quickly to give you insulin. Aspart will take effect in 15 to 30 minutes. This medicine is most effective between 30 minutes and 2.5 hours.

When taken, Aspart provides extra insulin to your body. Extra insulin is needed when your pancreas cannot make enough. Aspart helps lower sugar released from your liver. This medicine also helps your body store sugar from your blood. As a result, Aspart helps lower your blood sugar.

Aspart lowers your A1c level. This medicine is expected to lower your A1c by 0.9 to 1.1 percent (%).

Side effects and your role

Every medicine has side effects. People have diverse side effects from the same medicine.

The most common side effects of Aspart are:

- **Low blood sugar (hypoglycemia)**
- Weight gain
- Low potassium (a mineral)

Your role:

- Avoid low blood sugar by:
 - Checking your blood sugar often
 - Checking your blood sugar before you drive

- Checking your blood sugar before and after you exercise
- Always carry a fast acting carbohydrate with you (such as sugar tablets, juice or pop). Fast acting carbohydrates raise your blood sugar quickly. Eat a fast-acting carbohydrate if your blood sugar is low
- Talk to your doctor if you have questions about your medicine

Toronto Insulin (Humulin R™ or Novolin R™)

What is it and how does it work?

This medicine is part of the Insulin class. Toronto Insulin is a “regular short-acting” form of insulin. “Regular short-acting” means this medicine will take effect in 30 minutes. This medicine is most effective between 2.5 and 5 hours.

When taken, Toronto Insulin provides extra insulin to your body. Extra insulin is needed when your pancreas cannot make enough. Toronto Insulin helps lower sugar released from your liver. This medicine also helps your body store sugar from your blood. As a result, Toronto Insulin helps lower your blood sugar.

Toronto Insulin lowers your A1c level. It is expected to lower your A1c by 0.9 to 1.1 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. Everyone will experience different side effects from the same medicine.

The most common side effects of Toronto Insulin are:

- **Low blood sugar (hypoglycemia)**

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- Weight gain
- Low potassium (a mineral in your body)

Your role:

- Avoid low blood sugar by:
 - Checking your blood sugar often
 - Checking your blood sugar before you drive
 - Checking your blood sugar before and after you exercise
 - Always carry a fast acting carbohydrate with you (such as sugar tablets, juice or pop). Fast acting carbohydrates raise your blood sugar quickly. Eat a fast-acting carbohydrate if your blood sugar is low
- Talk to your doctor if you have questions about your medicine

Insulin NPH and Humulin (Humulin N™ or Novolin NPH™)

What is it and how does it work?

This medicine is part of the Insulin class. Insulin NPH and Humulin are an “intermediate-acting” form of insulin. “Intermediate-acting” means your medicine will take effect in 1 to 2 hours. These medicines are most effective between 4 and 12 hours.

When taken, Insulin NPH and Humulin provide extra insulin to your body. Extra insulin is needed when your pancreas cannot make enough. Insulin NPH and Humulin help lower sugar released from your liver. These medicines also help your body store sugar from your blood. As a result, Insulin NPH and Humulin help lower your blood sugar.

Insulin NPH and Humulin lower your A1c level. These medicines are expected to lower your A1c by 0.9 to 1.1 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. The most common side effects of Insulin NPH and Humulin are:

- **Low blood sugar (hypoglycemia)**
- Weight gain
- Low potassium (a mineral in your body)

You role:

- Avoid low blood sugar by:
 - Checking your blood sugar often
 - Checking your blood sugar before you drive
 - Checking your blood sugar before and after you exercise
 - Always carry a fast acting carbohydrate with you (such as sugar tablets, juice or pop). Fast acting carbohydrates raise your blood sugar quickly. Eat a fast-acting carbohydrate if your blood sugar is low
- Talk to your doctor if you have questions about your medicine

Glargine (Lantus™)

What is it and how does it work?

This medicine is part of the Insulin class. Glargine is a “long-acting” form of insulin. “Long-acting” means your medicine works slowly. Glargine will take effect in 3 to 4 hours. This medicine will continue to work for 24 hours or longer.

When taken, Glargine provides extra insulin to your body. This is needed when your pancreas cannot make enough. Glargine helps lower sugar

released from your liver. This medicine also helps your body store sugar from your blood. As a result, Glargine helps lower your blood sugar.

Glargine lowers your A1c level. This medicine is expected to lower your A1c by 0.9 to 1.1 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. The most common side effects of Glargine are:

- **Low blood sugar (hypoglycemia)**
- Weight gain
- Low potassium (a mineral in your body)

Your role:

- Avoid low blood sugar by:
 - Checking your blood sugar often
 - Checking your blood sugar before you drive
 - Checking your blood sugar before and after you exercise
 - Always carry a fast acting carbohydrate with you (such as sugar tablets, juice or pop). Fast acting carbohydrates raise your blood sugar quickly. Eat a fast-acting carbohydrate if your blood sugar is low
- Talk to your doctor if you have questions about your medicine

Detemir (Levemir™)

What is it and how does it work?

This medicine is part of the Insulin class. Detemir is a “long-acting” form of insulin. “Long-acting” means your medicine works slowly. Detemir will take

effect in 3 to 4 hours. This medicine will continue to work for 24 hours or longer.

When taken, Detemir provides extra insulin to your body. Extra insulin is needed when your pancreas cannot make enough. Detemir helps lower sugar released from your liver. This medicine also helps your body store sugar from your blood. As a result, Detemir helps lower your blood sugar.

Detemir lowers your A1c level. This medicine is expected to lower your A1c by 0.9 to 1.1 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. The most common side effects of Detemir are:

- **Low blood sugar (hypoglycemia)**
- Weight gain
- Low potassium (a mineral in your body)

Your role:

- Avoid low blood sugar by:
 - Checking your blood sugar often
 - Checking your blood sugar before you drive
 - Checking your blood sugar before and after you exercise
 - Always carry a fast acting carbohydrate with you (such as sugar tablets, juice or pop). Fast acting carbohydrates raise your blood sugar quickly. Eat a fast-acting carbohydrate if your blood sugar is low
- Talk to your doctor if you have questions about your medicine

Premix Regular-NPH (Humulin™ 30/70, Novolin ge™ 30/70, 40/60, 50/50)

What is it and how does it work?

This medicine is part of the Insulin class. Premix Regular - NPH is a “premixed” form of insulin. “Premixed” means this medicine works fast and slow at the same time.

When you take Premix Regular - NPH it provides extra insulin to your body. Extra insulin is needed when your pancreas cannot make enough. Premix Insulin - NPH helps lower sugar released from your liver. This medicine also helps your body store sugar from your blood. As a result, Premix Regular-NPH helps lower your blood sugar.

Premix Insulin - NPH lowers your A1c level. This medicine is expected to lower your A1c by 0.9 to 1.1 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. The most common side effects of Premix Insulin-NPH are:

- **Low blood sugar (hypoglycemia)**
- Weight gain
- Low potassium (a mineral in your body)

Your role:

- Avoid low blood sugar by:
 - Checking your blood sugar often
 - Checking your blood sugar before you drive

- Checking your blood sugar before and after you exercise
- Always carry a fast acting carbohydrate with you (such as sugar tablets, juice or pop). Fast acting carbohydrates raise your blood sugar quickly. Eat a fast-acting carbohydrate if your blood sugar is low
- Talk to you doctor if you have any questions about your medicine

Biphasic Insulin Aspart (NovoMix 30™)

What is it and how does it work?

This medicine is part of the Insulin class. Biphasic Insulin Aspart is a “premixed” form of insulin. “Premixed” means this medicine works fast and slow at the same time.

When taken, Biphasic Insulin Aspart provides extra insulin to your body. Extra insulin is needed when your pancreas cannot make enough. Biphasic Insulin Aspart helps lower sugar released from your liver. This medicine also helps your body store sugar from your blood. As a result, Biphasic Insulin Aspart helps lower your blood sugar.

Biphasic Insulin Aspart lowers your A1c level. This medicine is expected to lower your A1c by 0.9 to 1.1 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine. The most common side effects of Biphasic Insulin Aspart are:

- **Low blood sugar (hypoglycemia)**
- Weight gain
- Low potassium (a mineral in your body)

Your role:

- Avoid low blood sugar by:
 - Checking your blood sugar often
 - Checking your blood sugar before you drive
 - Checking your blood sugar before and after you exercise
 - Always carry a fast acting carbohydrate with you (such as sugar tablets, juice or pop). Fast acting carbohydrates raise your blood sugar quickly. Eat a fast-acting carbohydrate if your blood sugar is low
- Talk to your doctor if you have questions about your medicine

Insulin Lispro/Insulin Lispro Protamine Suspension (Humalog Mix 25™, Mix 50™)

What is it and how does it work?

This medicine is part of the Insulin class. Insulin Lispro is a “premixed” form of insulin. “Premixed” means this medicine works fast and slow at the same time.

When taken, Insulin Lispro provides extra insulin to your body. Extra insulin is needed when your pancreas cannot make enough. Insulin Lispro helps lower sugar released from your liver. This medicine also helps your body store sugar from your blood. As a result, Insulin Lispro helps lower your blood sugar.

Insulin Lispro lowers your A1c level. This medicine is expected to lower your A1c by 0.9 to 1.1 percent (%).

Side effects and your role:

Every medicine has side effects. People have diverse side effects from the same medicine.

The most common side effects of Insulin Lispro are:

- **Low blood sugar (hypoglycemia)**
- Weight gain
- Low potassium (a mineral in your body)

Your role:

- Avoid low blood sugar by:
 - Checking your blood sugar often
 - Checking your blood sugar before you drive
 - Checking your blood sugar before and after you exercise
 - Always carry a fast acting carbohydrate with you (such as sugar tablets, juice or pop). Fast acting carbohydrates raise your blood sugar quickly. Eat a fast-acting carbohydrate if your blood sugar is low
- Talk to your doctor if you have questions about your medicine

Important information to know about your diabetes medicine

There is important information to know about your diabetes medicine(s). Below are facts about diabetes medicines:

- People have diverse side effects from the same medicine. A medicine that helps one person may not help you
- Some people may have side effects and other people may not. The most common side effects were listed for each medicine. There may be other less common side effects too. Ask your pharmacist for a complete list
- Work with your doctor and pharmacist to find the best medicine for you. The best medicine for you will be different than for someone else
- Diabetes medicines are important to manage your blood sugar. They can lower your A1c level

Did You Know?

Exercising and eating healthy can also lower your A1c? In fact, they can be just as effective at lowering A1c as a diabetes medicine.

3. Who Can Help You with Your Diabetes Medicines

It is hard to manage taking many medicines. There are many people who can help you organize your medicines. The people include:

Your doctor or pharmacist

There are many medicines with many side effects. Your doctor or pharmacist can help you organize your medicines. Tell them if you have side effects. Ask the questions below:

- How will this medicine help me?
- What are the side effects of this medicine?
- What do I do if this medicine causes side effects for me?
- How will I know if I am allergic to this medicine?
- When should I take this medicine?
- Is there a way to know if I took my medicines each day?
- Is it safe to take this medicine with my other medicines?
- Do I need to change my diet while I take this medicine?
- How will I know if this medicine is helping me?
- Is there a service to bring my medicine to my house?

The MedsCheck Program

MedsCheck is a free program that can help you learn about your medicines. This service is for Ontario residents only. Call your pharmacy and make an appointment with your pharmacist. Your pharmacist will teach you about:

- How your medicines can help you
- How to take your medicines safely
- What side effects you may have
- If it is safe to take many medicines at once
- How and when to refill your medicines

Summary

- Taking your medicines as prescribed by your doctor is crucial to managing your blood sugar
- If you are concerned about side effects work with your doctor or pharmacist to find the right diabetes medicine for you
- Insulin and medicines from the Secretagogue class of medications put you at risk of low blood sugar (hypoglycemia)
- If you take insulin or a medicine from the Secretagogue class of medications you can avoid low blood sugar by:
 - Checking your blood sugar often
 - Checking your blood sugar before you drive
 - Checking your blood sugar before and after you exercise.
 - Always carry a fast acting carbohydrate with you (such as sugar tablets, juice or pop). Fast acting carbohydrates raise your blood sugar quickly. Eat a fast-acting carbohydrate if your blood sugar is low