

# Plain Language Patient Summary

## Information for people living with type 2 diabetes and kidney problems

Date of summary: December 2020

- This plain language patient summary is intended for a non-clinician audience. It summarizes content from one chapter in the supplement **Type 2 Diabetes 2021**, a collection of articles written for family physicians and other family health care professionals.
- The medicines discussed in this summary are approved to treat type 2 diabetes.

### What did this chapter look at?

- Type 2 diabetes is a common condition where the levels of sugar (glucose) in the blood are increased.
- People with type 2 diabetes can develop other conditions, such as kidney problems. They are more likely to have long-term (chronic) kidney disease than people who do not have type 2 diabetes.
- Chronic kidney disease is when the kidneys only work 60% or less or levels of a protein in the urine (called albumin) are too high.

**Around 4 out of 10 people with type 2 diabetes have chronic kidney disease**



- People with chronic kidney disease also have a higher chance of having heart problems and dying from heart disease.
- Around 3 in 4 people with type 2 diabetes and chronic kidney disease don't know that they have kidney problems.
- This chapter looks at factors that increase people's risk of chronic kidney disease, and which blood sugar-lowering medicines people with type 2 diabetes and chronic kidney disease (but without end-stage kidney disease) can take.

### What factors make someone more likely to develop chronic kidney disease?

#### Cannot change

##### Who you are



Older age



People who are Black, American Indian, Hispanic, or Asian/Pacific Islanders

##### Inherited



Having a family member with chronic kidney disease



Inheriting it from a parent

#### May be able to change or treat

##### General health



High blood sugar



High blood pressure



Being very overweight



Smoking

##### Kidney health



Kidneys suddenly stop working properly (acute kidney injury)



Taking something that damages the kidney (such as some medicines)

## Which type 2 diabetes medicines can people with chronic kidney disease take?

- Health care professionals will test how well the kidneys are working. They can advise if people with type 2 diabetes need to take a lower dose, stop taking their medicine, or continue it as usual.
  - Metformin is usually the first choice of medicine for people with type 2 diabetes with a kidney function of 30% or higher
  - The SGLT2 inhibitors canagliflozin, dapagliflozin, and empagliflozin lower the risk of worsening chronic kidney disease
- Any patient with end-stage kidney disease (kidneys work 15% or less) should talk to their doctor about what medicine to keep taking, take less of, or stop.



### Type 2 diabetes medicine



### Can it be taken by people whose kidneys aren't working very well (but who do not have end-stage kidney disease)?

#### Metformin

- Metformin is available in generic form



People will need to take a lower dose or stop taking this medicine

#### Sulfonylureas

Names of some sulfonylureas include:

- Glipizide (Glucotrol®, Glucotrol XL® [extended release], generics available)
- Glimepiride (Amaryl®, generics available)



People will need to take a lower dose or stop taking these medicines

#### Dipeptidyl peptidase-4 inhibitors (DPP-4 inhibitors)

Names of DPP-4 inhibitors include:

- Alogliptin (Nesina®)
- Saxagliptin (Onglyza®)
- Sitagliptin (Januvia®)



People will need to take a lower dose of these medicines

- Linagliptin (Tradjenta®)



People with kidney problems can take the same dose of this medicine as usual

#### Sodium-glucose co-transporter 2 inhibitors (SGLT2 inhibitors)

Names of SGLT2 inhibitors include:

- Canagliflozin (Invokana®)
- Dapagliflozin (Farxiga®)
- Empagliflozin (Jardiance®)
- Ertugliflozin (Steglatro®)



People may need to take a lower dose or stop taking these medicines

#### Glucagon-like peptide-1 receptor agonists (GLP-1 RAs)

Names of GLP-1 RAs include:

- Dulaglutide (Trulicity®)
- Liraglutide (Victoza®)
- Lixisenatide (Adlyxin®)
- Semaglutide (tablet: Rybelsus®, injection: Ozempic®)



People with kidney problems can take the same dose of these medicines as usual



In people whose kidneys aren't working very well, health care professionals will check for stomach problems, like nausea or vomiting

- Exenatide (Byetta®)
- Exenatide XR (Bydureon® and Bydureon BCise®)



People may need to take a lower dose or stop taking these medicines



In people whose kidneys aren't working very well, health care professionals will check for stomach problems, like nausea or vomiting

#### Insulin

- Many different kinds of insulin are available in brand and generic forms



People will need to take a lower dose

## What are the key take-home points?

- It is important for health care professionals to identify people with type 2 diabetes who have chronic kidney disease. This will help health care professionals to understand which type 2 diabetes medicines may be safe for that person to take.
- In type 2 diabetes and chronic kidney disease with a kidney function of 30% or higher there are benefits from treatment using both metformin and an SGLT2 inhibitor.



### How to say

- **Alogliptin** (a-low-GLIP-tin). It is also called **Nesina** (ness-EE-na)
- **Canagliflozin** (can-A-gli-FLOW-zin). It is also called **Invokana** (in-VO-CAHN-a)
- **Dapagliflozin** (dap-A-gli-FLOW-zin). It is also called **Farxiga** (far-ZEE-ga)
- **Dulaglutide** (DOO-la-gloo-tide). It is also called **Trulicity** (TRUE-liss-ity)
- **Empagliflozin** (em-PAH-gli-FLOW-zin). It is also called **Jardiance** (JAR-dee-ance)
- **Ertugliflozin** (err-TUG-gli-FLOW-zin). It is also called **Steglatro** (ste-GLA-trow)
- **Exenatide** (eck-SEN-a-tide) and **exenatide XR**. It is also called **Byetta** (bi-ET-ta) and **Bydureon** (bi-door-E-ON)
- **Glimepiride** (GLIH-meh-peh-ride). It is also called **Amaryl** (A-mah-rill)
- **Glipizide** (GLIP-eh-zide). It is also called **Glucotrol** (GLUE-co-trol) or **Glucotrol XL**
- **Linagliptin** (lin-ah-GLIP-tin). It is also called **Tradjenta** (tra-GENT-a)
- **Liraglutide** (leer-a-GLOO-tide). It is also called **Victoza** (VIC-toe-za)
- **Lixisenatide** (LICK-see-SEN-a-tide). It is also called **Adlyxin** (ad-LIX-in)
- **Metformin** (met-FORM-in)
- **Saxagliptin** (SAX-a-GLIP-tin). It is also called **Onglyza** (on-GL-eye-za)
- **Semaglutide** (sem-a-GLOO-tide). The tablet is also called **Rybelsus** (rie-BELL-sus). The injection is also called **Ozempic** (OH-sem-pick)
- **Sitagliptin** (sit-ah-GLIP-tin). It is also called **Januvia** (jan-OO-vee-a)
- **Sulfonylurea** (SULF-fah-nil-yoo-ree-ah)