



What are Antihyperglycemics?

Antihyperglycemics are drugs that are used to reduce blood sugar levels to treat diabetes. There are many different types of antihyperglycemic drugs:

- Insulin
- Acarbose (e.g. Glucobay®)
- Metformin (e.g. Glucophage®)
- Alogliptin (Nesina®), linagliptin (Trajenta®), sitagliptin (Januvia®), saxagliptin (Onglyza®)
- Dulaglutide (Trulicity®), exenatide (e.g. Byetta®), liraglutide (Victoza®)
- Gliclazide (e.g. Diamicon®), glimepiride (Amaryl®), glyburide (Diabeta®), tolbutamide
- Repaglinide (Gluconorm®)
- Canagliflozin (Invokana®), dapagliflozin (Forxiga®), empagliflozin (Jardiance®)
- Pioglitazone (Actos®), rosiglitazone (Avandia®)
- Products are available that combine 2 different drugs in 1 pill

Why use less of, stop, or change Antihyperglycemics?

When antihyperglycemic drugs are first given, the goal is to keep blood sugar levels within a certain range to prevent problems like heart attacks, strokes or nerve damage. It can take several years of treatment to reduce risk of these problems.

With age, benefits are less clear and the risk of hypoglycemia (low blood sugar) gets higher. Very low blood sugar targets (tight control) may not be needed and can be risky. Older people may also need lower doses to avoid other side effects that can happen with low kidney function.

The risk of low blood sugar is higher for people who:

- Are older and frail, or who have dementia
- Have many medical conditions or low kidney function
- Have tight blood sugar control
- Have a history of low blood sugars or do not have symptoms when their blood sugars are low
- Are taking insulin or sulfonylurea type drugs like glyburide
- Are taking medications that can interact with antihyperglycemics, or cause low blood sugar, or mask symptoms of low blood sugar

Low blood sugar can increase risk for falls, fractures, confusion, seizures and hospitalizations.

Stopping, reducing or changing an Antihyperglycemic is not for everyone

If you are not at risk for low blood sugar, you are not having any side effects and you and your prescriber feel there is clear benefit to taking the medications, then, you do not need to make any changes.

Healthy older people may choose to stick with an A1C target less than 7% and blood sugar goals similar to their younger days in order to reduce the risk of complications.

But, people over 65 who might be at risk of low blood sugar or want to revisit their diabetes treatment goals **should talk to their health care provider** about whether deprescribing is the right choice for them.

How to safely reduce an Antihyperglycemic

First, work with your health care provider to choose appropriate blood sugar and A1C targets for your age and state of health. For example, blood sugars less than 12mmol/L and A1C less than 8.5% may be appropriate for an older, frailer person with many other medical conditions.

Together, develop a plan for medication changes. This might involve reducing a dose, changing to a safer medication or stopping a medication altogether. Such changes could occur every 1 to 2 weeks, always under the supervision of your health care provider.

Many healthcare providers can be involved in helping to decide on the best approach to changing your antihyperglycemic medications. These include doctors, nurses, pharmacists, certified diabetes educators or dieticians. They can advise on how to safely reduce doses, change medications, stop medications or make lifestyle changes that can help meet the new targets and reduce risk of low blood sugar.

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Farrell B, Black C, Thompson W, McCarthy L, Rojas-Fernandez C, Lochnan H, et al. Deprescribing antihyperglycemic agents in older persons. Evidence-based clinical practice guideline. Can Fam Physician 2017;63:832-43 (Eng), e452-65 (Fr).



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What to monitor while making changes to an Antihyperglycemic

Develop a plan with your health care provider for monitoring. For example, you could check your blood sugar daily for 1-2 weeks after each change. You may need a longer time for monitoring depending on the type of medication you are taking (up to 12 weeks for some).

- Watch for signs of high blood sugar (e.g. increase in thirst, urination or fatigue).
- Watch for improvement in low blood sugar (with fewer symptoms such as sweating, fast heart rate or tremor)
- Watch for improvement in other side effects.
- Report changes to your health care provider
- Changes in the A1C blood test may not be seen for several months.

What to do if low blood sugars or drug side effects continue?

Talk to your health care provider. They can help decide what changes to make next. They may suggest eating at regular times (to reduce risk of low blood sugar). They may check your other medications to make sure none are interacting with your antihyperglycemics or causing low blood sugar on their own. They may also check to see if you recently stopped a medication that can cause high blood sugar.

What to do if blood sugars go above your individualized target?

If blood sugar readings or A1C go above the agreed upon target, your healthcare provider may decide to return to the previous dose or consider changing to a different drug with less risk of low blood sugar.

Personalized Antihyperglycemic dose reduction strategy

Blood glucose target: _____

A1C target: _____

Deprescribing strategy and monitoring plan:

This pamphlet accompanies a deprescribing guideline and algorithm that can be used by doctors, nurse practitioners, or pharmacists to guide deprescribing.

Visit
deprescribing.org
for more information.

