



Keeping your blood sugar under control now, with a combination of healthy lifestyle and appropriate use of medications, will pay large dividends in the future.

Studies have shown that people with diabetes who maintain good blood sugar control benefit in the following ways:

- Less chance of developing retinopathy (a type of eye disease)
- Less chance of developing nephropathy (a type of kidney disease)
- Less chance of developing neuropathy (a type of nerve disease)

**THE CANADIAN DIABETES ASSOCIATION RECOMMENDS THE FOLLOWING TARGETS FOR BLOOD SUGAR (GLUCOSE) AND A1C VALUES:**

	Fasting blood glucose/ blood glucose before meals (mmol/L)	Blood glucose two hours after eating (mmol/L)	A1C (depending on lab)
Target for most people with diabetes*	4.0 to 7.0	5.0 to 10.0 (5.0 to 8.0 if A1C target not being met)	7% or less

*\*Targets for pregnant women and children under 12 differ. Talk to your diabetes healthcare team.*

These figures are only a guide. You should talk with your healthcare team to determine what your target levels will be.



**WHERE TO FIND MORE INFORMATION**

**The Canadian Diabetes Association**  
 National Office:  
 1400-522 University Ave.  
 Toronto ON M5G 2R5  
 Phone: 1-800-226-8464 for the regional office nearest you or visit their website.  
 e-mail: info@diabetes.ca  
[www.diabetes.ca](http://www.diabetes.ca)

**American Diabetes Association**  
 ATTN: National Call Center  
 1701 North Beauregard St.  
 Alexandria, Virginia USA 22311  
 Phone: 1-800-342-2383  
 e-mail: AskADA@diabetes.org  
[www.diabetes.org](http://www.diabetes.org)

**Health Canada**  
<http://www.hc-sc.gc.ca/dc-ma/diabete/index-eng.php>

**Public Health Agency of Canada**  
<http://www.phac-aspc.gc.ca/ccdpc-cpcmc/diabetes-diabete/english/index.html>

The information found in this PROfile health brochure is of a general nature only. It is not intended to replace the advice of your pharmacist, physician, or other healthcare provider. If you have questions relating to your specific health concerns, please contact your personal healthcare provider.



Your PROfile Pharmacist has many resources available for diabetes education and is always pleased to discuss your health concerns!

EXCLUSIVELY AT



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Medications for Type 2 Diabetes





## HOW DO TYPE 2 DIABETES MEDICATIONS WORK?

In order to understand how diabetes medications work, we first need to take a look at why we get high blood sugar. The food we eat is broken down in the stomach into its component parts.



For example, potatoes contain starch, which consists of a number of sugar units connected together. Enzymes in our stomach break down the chain, allowing the individual sugar molecules to be absorbed into the bloodstream. Once in the bloodstream, the sugar is carried

to various parts of the body. Insulin produced by the pancreas allows the sugar to enter into the body's cells so that it can be used as energy or stored for future use.

## HIGH BLOOD SUGAR OCCURS FOR TWO REASONS:

1. The body's cells become resistant to the action of insulin.
2. The pancreas is not producing enough insulin to keep up with the body's demands.

Because the cells do not take sugar in quickly enough in these two situations, extra sugar is left behind in the bloodstream.

**In type 2 diabetes** (90% of people with diabetes), both problems contribute to the condition, but the pancreas usually is still making insulin.

**In type 1 diabetes**, the type usually diagnosed in children and adolescents, the pancreas is not producing insulin. That is why people with type 1 diabetes always need insulin.



## DIFFERENT TYPES OF MEDICATION CAN BE USED ALONG WITH LIFESTYLE CHANGES TO CONTROL BLOOD SUGAR IN PEOPLE WITH TYPE 2 DIABETES

**Metformin** - The liver makes sugar and releases it into the bloodstream. Metformin lowers blood sugar by slowing down this process. Metformin also makes the body cells more sensitive to insulin. Metformin is usually the first medication used for most people.

**Sulfonylureas** - The sulfonylurea medications include gliclazide, glimepiride and glyburide. These medications help the pancreas to produce extra insulin, which helps more sugar get into the cells.

**Meglitinides** - Nateglinide and repaglinide also help the pancreas to make more insulin. These medications act more quickly than the sulfonylureas and are also broken down (metabolized) more quickly.

**Glitazones** - Pioglitazone and rosiglitazone lower blood sugar by lowering the cells' resistance to the effects of insulin.

**Acarbose** - Acarbose slows the breakdown and absorption of long chain sugars in food. This prevents a high spike of blood sugar after eating.

**Incretin agent** - Sitagliptin helps the pancreas to produce more insulin especially when the level of blood sugar is high around meals. It also helps reduce the production of sugar by the liver. Sitagliptin is currently recommended for combination use with metformin.

**Insulin** - People with type 1 diabetes require insulin. People with type 2 diabetes may also be prescribed insulin, alone or in combination with oral medications. For detailed information about the use of insulin, see the PROfile health brochure entitled 'Insulin Use'.

## PERSISTENCE IS IMPORTANT!

Once you have been diagnosed with type 2 diabetes, effective and persistent blood sugar monitoring and control is important.

Your doctor may initially prescribe one or two medications or insulin to improve your blood sugar, along with lifestyle changes. As the years go by, the pancreas continues to lose its ability to produce enough insulin to keep up with the needs of the body.

When it is evident that the current medication regimen is not enough to keep blood glucose under control despite good eating and exercise habits, your doctor may add another blood sugar lowering medication/insulin to your regimen.

Be assured, however, that as long as your blood sugar is under control, your risks for developing long-term problems (e.g. kidney, eye, nerve disease) will be minimized.



Your PROfile Pharmacist will be happy to answer any questions you might have about your diabetes medications and make sure that you understand how and when to measure your blood sugar.